THE SMITH BARNEY URANIUM ENRICHMENT REPORT

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY RESEARCH AND DEVELOPMENT

OF THE

COMMITTEE ON
SCIENCE, SPACE, AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

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THE SMITH BARNEY URANIUM ENRICHMENT REPORT

WEDNESDAY, JULY 11, 1990

House of Representatives,
Committee on Science, Space, and Technology,
Subcommittee on Energy Research and Development,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:37 a.m., in room 2318, Rayburn House Office Building, Hon. Marilyn Lloyd (Chairman of the Subcommittee) presiding.

OPENING STATEMENT OF HON. MARILYN LLOYD, CHAIRMAN, SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

Mrs. Lloyd. Good morning, ladies and gentlemen. Our Subcommittee will come to order.

Before we begin, I would ask unanimous consent that today's proceedings be covered by the media. No objection, so ordered.

The Department of Energy, in its efforts to move forward with restructuring of its uranium enrichment enterprise, contracted with Smith Barney, Harris Upham & Company, Incorporated, to prepare an independent financial assessment of the department's program. Additionally, the statement of work directed the Smith Barney project team to evaluate current legislative proposals to restructure the enterprise and to examine the future of the program under the status quo.

In a little over 15 years, the Department of Energy's uranium enrichment enterprise has gone from a free world monopoly to a business with only 45 percent of the share of the marketplace. In part, this is due to a couple of factors that have had long-standing and crippling impacts on the operations.

First of all, at the time the enterprise was established for commercial activity, it was a monopoly. Restrictions were placed on operations and pricing to protect the ratepayers. Throughout the late 1970s and the 1980s, as we steadily lost our customers, these restrictions remained in place—and they are still in place today—and those restrictions are severely impeding the competitive business practices of the enterprise.

Second, over the years several Administrations and the Congress have dictated certain activities of the enterprise that are based on political considerations without regard to the practical business impacts. This, too, is discussed in the report.

And so many of us on this Subcommittee, and certainly those who cosponsor H.R. 2480, believe we are in a very narrow time frame in which to act to save this enterprise. Contract cancellations begin to take effect in 1995. To date, we have seen these cancellations increase each year through 1999, and even though the Department of Energy does not require cancellations for the year 2000, they have several unsolicited. This is clearly an indication of a business that is in trouble.

So if we don't act now to prepare for the changing climate, the uranium enrichment enterprise will not accompany us into the 21st century. we will have to relinquish yet another U.S. technology to foreign competitors for reaping. Our defense costs will soar, the taxpayers will be left holding a multi-billion dollar decommissioning and decontaminating bag which to date has no limit, and our dependence for energy supply will increase significantly.

At a time when we are already importing more than 50 percent of our oil, can we as a nation complacently give away control of 20 percent of our electricity supply? I fervently state that we cannot.

The growing consensus is that if restructuring legislation is not enacted in this Congress, it will be too late. A strong, competitive, stable business must be in place and poised to do serious business when 1995 arrives. Only then will we be able to retain our customers.

We must look to the future and prepare for it. We must maintain our supply of enriched uranium. And we must start dealing with decommissioning and decontamination issues.

H.R. 2480 will accomplish that and set us on a forward-looking path ready to meet the future head on.

Before I do get into our introductions, I do want to recognize my colleague, the Ranking Republican Member, Mr. Morrison, for his remarks.

[The prepared opening statement of Mrs. Lloyd follows:]

OPENING STATEMENT OF HON. SID MORRISON, RANKING REPUBLICAN, SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

Mr. MORRISON. Thank you, Madam Chairman. I have a formal statement for the record, and would like to informally mention, since we have worked on this issue so much, that usually hearings are held in search of an answer. We have an answer in this whole issue area, and I think the Department of Energy has demonstrated great leadership, and you have, too, Madam Chairman, in bringing the legislation to us that would provide the pathway that we know we have got to follow if we, in fact, are going to continue to provide enriched uranium as fuel material, not only for energy purposes but for vital defense purposes in this country.

I look forward to this report, as I think it will provide support for the future as this Subcommittee and the Department of Energy have seen it.

[The prepared opening statement of Mr. Morrison follows:]

OPENING STATEMENT
HON. SID MORRISON (R-WA)
HEARING ON URANIUM ENRICHMENT
JULY 11, 1990

THANK YOU, MADAM CHAIRMAN.

I WOULD LIKE TO COMMEND YOU FOR HOLDING THIS HEARING ON URANIUM ENRICHMENT. AS HAS BEEN POINTED OUT, THE UNITED STATES HAS MOVED FROM A VIRTUAL WORLD MONOPOLY TO A POSITION WHERE THERE IS A QUESTION OF OUR DOMESTIC INDUSTRY'S VERY SURVIVAL. WHEN THE UNITED STATES HAD A MONOPOLY IN URANIUM ENRICHMENT WE DID NOT HAVE TO WORRY ABOUT OUR COMPETITIVE POSITION.

AS A RESULT OF A LACK OF MARKET DISCIPLINE OUR INDUSTRY HAS BEEN SADDLED WITH MANY BUREAUCRATIC AND NON-COST EFFECTIVE REQUIREMENTS.

H.R. 2480 ADDRESSES MANY OF THE UNCOMPETITIVE PRACTICES BY REORGANIZING AND STREAMLINING OUR URANIUM ENRICHMENT CAPABILITY. THE BILL WOULD GIVE OUR INDUSTRY THE FLEXIBILITY TO MAKE DECISIONS WHICH REFLECT MARKET CONDITIONS AND THE ABILITY TO AFFECT COST REDUCTIONS.

BY MOVING TO A MORE BUSINESS-LIKE BASIS WE WILL BE ABLE TO DEPLOY NEW TECHNOLOGIES WHICH IN TURN WILL ENHANCE AND STRENGTHEN THE COMMERCIAL POSITION OF THIS IMPORTANT ENERGY SECTOR.

I LOOK FORWARD TO HEARING THE TESTIMONY OF BOTH SECRETARY MOORE AND MR. ZARB AND WELCOME THEIR INPUT AS WE FORMULATE THIS VITAL LEGISLATION.

Mrs. **Lloyd**. Thank you, Mr. Morrison. Without objection, your entire statement will be made a part of the record.

Mr. Fawell, do you have an opening statement?

Mr. **Fawell**. No, I do not, Madam Chairman. I have heard some of the pros and cons in reference to this matter before, and look forward to the comments in reference to this new Smith Barney report.

Thank you.

Mrs. **Lloyd**. Thank you very much.

Mr. Wolpe?

OPENING STATEMENT OF HON. HOWARD WOLPE, MEMBER SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

Mr. **Wolpe**. Thank you very much, Madam Chairman.

I want to thank you for convening today's hearing to review the Smith Barney report of the Department of Energy's uranium enrichment program.

I must express some disappointment that the National Taxpayers' Union is not being asked to testify and permitted to testify here today. As you know, the NTU has been deeply concerned over the current state of DOE's program for some time. I think they have raised some very important questions that we need some very clear answers to before proceeding on this matter.

I would, therefore, like to ask unanimous consent that a statement by the National Taxpayers' Union be entered in the hearing record at this point.

Mrs. **Lloyd**. Without objection, it will be made a part of the hearing record at this point.

[The statement of the National Taxpayers' Union follows:]

NATIONAL TAXPAYERS UNION

A NONPARTISAN, NONPROFIT ORGANIZATION DEDICATED TO THE PUBLIC INTEREST

NSYLVANIA AVENUE SOUTHEAST   WASHINGTON, DISTRICT OF COLUMBIA 20003   TELEPHONE AREA CODE (202) 543-1300

For immediate release
11 July 1990

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National Taxpayers Union Labels Smith, Barney Report
A Whitewash for Industry Bailout Proposals

National Taxpayers Union (NTU) today expressed regret with the poor quality of the report prepared by Smith, Barney, Harris, Upsham and Company. The report, for which the Department of Energy (DOE) is rumored to have paid $2.5 million, was supposed to be an "independent" evaluation of DOE's uranium enrichment program. Instead, the report is a "whitewash" for DOE and nuclear utility industry proposals for a multi-billion dollar bailout by federal taxpayers for an ill-managed nuclear fuel program.

Like their pro-bailout counterparts in the Senate Energy Committee, the Energy Research and Development Subcommittee declined to permit NTU to offer testimony critical of the Smith, Barney whitewash. However, the flaws in the report are clear upon even a cursory examination.

In the report, which DOE has "sanitized" prior to any public release, Smith-Barney and DOE recommend a taxpayer bailout of indefinite amount, but evidently at least $15 billion or more. No bona fide justification for this bailout is given, and it is a waste of taxpayer money for the questionable benefit of a few special interests.

National Taxpayers Union especially objects to four elements of the Smith, Barney whitewash.

1. Unrecovered government costs. The first element is Smith, Barney's treatment of "unrecovered government investment" in the DOE civilian uranium enrichment program. According to the General Accounting Office and its methodology, and as Smith, Barney admits, the unrecovered government investment exceeds $10.0 billion.[1] Under section 161v. of the Atomic Energy Act, 42 U.S.C. § 2201v., all that money is supposed to be recovered from DOE's civilian customers. One of the key objectives of DOE, Edison Electric Institute, and other bailout proponents, is to sock taxpayers with all these costs via a "write-off." Smith,

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[1] Smith-Barney Report, App. 6: Coopers & Lybrand, May 10, 1990, at p. 5.

Barney gamely tries to vindicate this position with a two-fold approach. First, Smith, Barney claims it is a distraction. Second, Smith, Barney tries to confuse the issue.

As to distraction, Smith, Barney in recent testimony in the U.S. Senate (which we assume will be repeated in the House Science and Technology hearing today) claimed that any "preoccupation with how to divide" these hefty costs "detracted" from the issue of preserving DOE's enterprise.[2] But that is nothing more than a fancy way of saying that any meaningful focus on unrecovered costs illustrates the unjustified nature of requiring a total taxpayer bailout of this industry.

As to confusing the issue, Smith, Barney puts on an exemplary performance. Citing a Coopers & Lybrand study prepared by unknown authors, Smith, Barney asserts there has been a $1.17 billion over-recovery,[3] not a $10 billion deficit. Where did this $1.17 billion come from? Apparently Coopers & Lybrand re-calculated the civilian uranium enrichment unrecovered costs to be about $4.5 billion after taking a series of deductions for alleged overpayments of imputed interest and underpayments for defense purposes.[4] Then Coopers & Lybrand calculated that the civilian program had run up $11.4 billion in costs for unused electricity and unneeded facilities.[5] Coopers & Lybrand arbitrarily decided that, in addition to all defense-related costs, half of all these "civilian" costs should be borne by the taxpayers, leaving $5.7 billion for nuclear utilities to pay.[6] (Coopers & Lybrand, like Smith Barney, want to ignore the legal requirement that civilian customers bear all civilian costs.) Coopers & Lybrand then deducted the $5.7 billion it acknowledged the utilities owed from the $4.5 billion it claimed they did not but should have paid, and says that this means there has been a $1.17 billion overpayment.[7] Coopers & Lybrand presumably knows that apples and oranges do not add up, and it should know that they do not subtract either. Not even an accountant can legitimately deduct a heavily manipulated loss from an arbitrarily halved deficit and claim to have shown an "overpayment." This is accounting alchemy at best (or, perhaps more appropriately, "worst"). As they say in some parts of the country, this dog does not hunt.

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[2] Timbers Statement, Senate Energy Comm., June 28, 1990, at p. 9.

[3] Id. at p. 10.

[4] Smith-Barney, App. 6, at p. 6. Smith-Barney deducts over $1.0 billion for alleged underpayments for defense uranium, but DOE has previously stated that the charges for defense purposes were fairly apportioned, and if there were underpayments, they were relatively trivial -- "only $10 to $15 million per year." see 51 Fed. Reg. 15636 (April 25, 1986). Smith-Barney and Coopers & Lybrand supply no facts to justify their revisions to history and thirty years of GAO-accepted practices.

[5] Id.; Coopers & Lybrand letter to Mr. Timbers dated June 8, 1990.

[6] See Coopers & Lybrand letter to Timbers dated June 8, 1990.

The bottom line is the civilian program has run up a huge amount of unrecovered costs, and that amount should have been paid by the nuclear utility industry. Edison Electric Institute and nuclear utility spokesmen asked for -- indeed insisted upon -- the investments for which they now seek to avoid payment. At the time they insisted on the investments, they represented that they -- not taxpayers -- would pay. The bailout proponents are quite literally reneging on their past representations.

2. Unrecovered environmental and decommissioning liabilities. The second element of Smith, Barney mistreatment of the taxpayers' interests relates to who pays for the costs for environmental remedial action and decommissioning expenses for DOE's three uranium enrichment plants. These costs are legitimately part of the cost of providing civilian uranium enrichment services but have not been recovered from DOE's customers. DOE's most recent estimate available to NTU for those costs is in the $ 4 to $ 6 billion range. Smith-Barney suggests that those numbers are likely way low.[8] Yet in its next breath, Smith-Barney recommends that the federal taxpayer rather than DOE's customers bear all these expenses presumably in order to make it easier for DOE to compete.[9] It would doubtless make it easier for any industry to compete if it could shift all its environmental costs to taxpayers, but this is hardly a justification for a generalized and massive taxpayer subsidy for a mature industry. No matter how many ribbons are tied around Smith, Barney's proposal of indefinite and unlimited taxpayer liability for the environmental costs associated with DOE's civilian nuclear fuel program, it is an unjustified mega-bailout.

3. Avlis. The third element of the Smith, Barney whitewash is what to do about the new technology, AVLIS. DOE contractors and the nuclear utility industry evidently want taxpayers to build an expensive new uranium enrichment facility, with taxpayers bearing additional billions in risks. Smith, Barney

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[7] Id.

[8] Timbers Senate Testimony at 11.

[9] Timbers Senate testimony at 11-12.

(is anyone surprised?) parrots the company line that AVLIS should be built, ostensibly so DOE will be "competitive."[10] But wait a minute. DOE says there is excess capacity, and demand is not growing very fast. Why should the U.S. taxpayer, who has taken so big a beating from DOE's capacity additions already (over a billion invested in unneeded upgrades of the existing enrichment plants, almost $3 billion lost on the cancelled gas centrifuge), build yet another mega-plant in this kind of market? The only sum for this equation is another multi-billion dollar taxpayer loss. If DOE customers want a big new AVLIS plant, they should build it, not the taxpayer. Congress must make absolutely certain that the federal taxpayer bears none of the risk for this latest nuclear fuel spending spree.

4. Soviet SWU's. The usual justification for a uranium enrichment bailout is "national security," and Smith, Barney points to that as a justification for its judgments and concerns in the Executive Summary of the Smith, Barney report. But DOE wants to buy uranium enrichment services from the Soviet Union, and Smith, Barney is gamely recommending that DOE do so.[11] Buying Soviet enrichment services is palpably inconsistent with the "national security" argument. Smith, Barney argues that the Soviet enrichment services are being offered below cost. Rather than lose American jobs and incur taxpayer losses due to unfair foreign competition, the federal government should pursue trade remedies against dumping. Why is the United States not doing so? Who is the State Department afraid of upsetting this time? Where is Smith, Barney's discussion of the issue? Or is any discussion in the so-called "independent" report just too contrary to the "company line."

Conclusion. There is little to be gained and much to be avoided in the Smith, Barney report and in the various bailout proposals to which it is attendant. Unfortunately, the fixation DOE and its industry supporters have developed for so gross a bailout at taxpayer expense is hampering efforts to restructure the uranium enrichment program to the benefit of all.

National Taxpayers Union supports restructuring to the DOE uranium enrichment program. National Taxpayers Union opposes continued subsidization of the civilian component of that program with billions in taxpayer assets and liability and cost assumptions.

As the Smith-Barney report acknowledges, the DOE enrichment enterprise has not been conducted as a business enterprise. Instead, it has been conducted in a fashion dependent on heavy taxpayer subsidies, illegal under current law. Most restructuring proposals, including the industry and Administration proposals being advocated by the Senate Energy Committee, simply ratify the currently illegal subsidies, and establish mechanisms for several billion more in subsidization. These proposals would further drain a federal budget already deeply in red ink, and are contrary to the interests of the federal taxpayer.

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[10] Timbers Senate Testimony at 6.

[11] Timbers Senate Testimony at 8.

NATIONAL TAXPAYERS UNION

A NONPARTISAN, NONPROFIT ORGANIZATION DEDICATED TO THE PUBLIC INTEREST

[illegible] PENNSYLVANIA AVENUE, SOUTHEAST WASHINGTON, DISTRICT OF COLUMBIA [illegible] TELEPHONE AREA CODE (202) 543 1300

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Background Paper: Uranium Enrichment Meltdown

DOE's Uranium Enrichment Debacle. The federal government's uranium enrichment enterprise, administered by the Department of Energy (DOE), has been a business debacle for the U.S. taxpayer. Proposals emanating from Senate Energy and Natural Resources Committee ostensibly to "make it better" instead compound the tragedy, and amount to another multi-billion dollar taxpayer bail-out for a mature industry. The program badly needs an injection of perestroika and glasnost, as is being attempted for similar archaic and ill-run government enterprises in Eastern Europe.

DOE's Enrichment Enterprise Is Illegal Under Current Law and Has Run Up a Huge Taxpayer Subsidy. Under current law (section 161v. of the Atomic Energy Act, 42 U.S.C. § 2201v.), the federal uranium enrichment program is supposed to recover all its costs, including depreciation and return on investment, from its customers. The program has failed to do so. According to the General Accounting Office (GAO), as of the end of 1988, DOE had failed to recover almost $10,000,000,000 (ten billion) dollars. Failure to recover these costs amounts to an illegal taxpayer subsidy for a mature industry. Additionally, the program has failed to recover, or to otherwise set aside, any money to decommission the three existing uranium enrichment plants. The DOE and GAO estimates for decommissioning and environmental remedial action run from $4 to $6 billion. Representatives of DOE's consulting firm (Smith Barney) have indicated to National Taxpayers Union that the total liability could be much more. Unless these costs are recovered (and to date they are not being recovered), taxpayers will be compelled to bear these expenses as well. DOE currently has no measures in place adequate to recover these costs. The total taxpayer subsidy for DOE's enrichment program and the civilian nuclear industry is thus well in excess of $10 billion. Like the federal deficit, the amount is climbing each year. The nuclear utilities (including specifically their trade association, the Edison Electric Institute), which throughout the 1960's, 1970's, and early 1980's, stated that they would pay all the costs associated with the DOE enrichment program (including new investments in the program) have reneged on their representations.

DOE Is Pursuing Political Goals of Subsidizing Special Interest Groups and Is Not Protecting the Public Interest. DOE asserts that its foreign-government owned competitors charge $170 to $190 per unit of enrichment services on their home markets. Yet DOE charges all customers an average price which has dropped below $110 per unit. DOE has pursued a policy of cutting prices to subsidize its customers rather than a policy of recovering its costs and prudently investing in its future. It has pursued political objectives rather than the objective of maximizing profit and value which would characterize a responsible business operating in a competitive market.

The Senate Energy Committee Has Proposed Bailout Bills which Are Clearly Contrary to the Interests of the U.S. Taxpayer. The Senate Energy Committee has proposed legislation to repeal current law requiring cost recovery, and to approve the multi-billion dollar illegal taxpayer subsidy. The Senate Energy Committee legislation also encourages the federal enrichment enterprise to borrow $2 billion more dollars, evidently secured against its current assets. Given DOE's disastrous past investment with the so-called GCEP enrichment plant, it is not hard to posit that this $2 billion in secured borrowings will quickly be squandered by the federal enrichment enterprise. The Senate proposal is a bail-out and subsidy bill, pure and simple. And it puts the taxpayers at risk for the remaining value -- at least in the amount of $2 billion -- of the enterprise.

The Proposed AVLIS Facility Should Not Be Built with Taxpayers Guaranteeing the Risks. DOE is laboring under excess capacity. One (Oak Ridge, Tenn.) of its three plants has been shut down; the other two (Portsmouth, Ohio; Paducah, Ken.) are producing below capacity. Nevertheless, DOE, its utility customers, and the government contractor lobby want U.S. taxpayers to build a huge new plant, based on unproven "AVLIS" technology, at an estimated cost of approximately $2 billion. This obviously makes no sense in the face of a glut in the enrichment capacity of the current program, especially given the fact that the last time the federal government embarked on a "new technology" enrichment plant (the "GCEP facility" at Portsmouth), it spent almost three billion dollars and then dropped the project, with a huge loss. To justify the irrationality of constructing more in the face of no increase in demand and excess capacity, DOE, its contractors, and its nuclear industry customers, claim that the three existing plants are obsolete. But the cost of production (if all unrecovered costs are written off as DOE and the utilities demand) at the existing plants is equal to or less than the projected cost at the new technology plant DOE and its lobby wish to build.

If the nuclear utility industry and DOE contractors want to build a new enrichment plant, they should build it themselves, or guarantee DOE a price which will assure that all costs associated with such a plant, whether it operates or not, will in fact be recovered from them. The days for taxpayers to underwrite all this industry's downside risk should be over. If AVLIS is financed directly by taxpayer funds, or is funded by loans drawn on taxpayer assets, it will simply be another "savings and loan"-type debacle. The federal uranium enrichment enterprise should not be treated as a spigot to pump taxpayer money to nuclear utilities and DOE contractors.

The Louisiana Enrichment Services Project Sponsored by the Senate Energy Committee Is a Direct Threat to the Federal Uranium Enrichment Program. A foreign government owned competitor of DOE, with the support of Chairman Bennett Johnston, and the nuclear utility lobby, has proposed a private "cream-skimming" enrichment plant based on foreign technology in Louisiana. Although the Senate Energy Committee is attempting to relax health and safety regulatory requirements to facilitate this project, it will, if implemented, impede the ability of the federal taxpayer owned DOE enterprise to recover its costs. Why the taxpayers should tolerate this maneuver has never been explained. It is an artifact of special interest lobbying.

The Smith Barney Report Was Conceived as a Sales Document for the Senate Bail-out Proposals. The Smith Barney report, for which DOE paid approximately $2.5 million, was supposed to demonstrate that the DOE enterprise would generate a "positive" case flow under the following conditions (all of which equate to an enormous taxpayer subsidy): if all its "unrecovered costs" were forgiven, if essentially all taxpayer investment in it forgotten, and if no significant amounts are recovered to clean up the facilities. It was thought that this would "justify" the Senate bailout legislation. It no more justifies the Senate legislation than it justifies a law requiring the U.S. taxpayer to pay for all the capital costs and environmental costs associated with the petroleum or chemical industries. Thus far, DOE has refused to make available the key documents underlying the Smith Barney report for public review, on the ground that they are secret. It is unreasonable to attempt to justify so gross a bailout on the basis of "secret" information. National Taxpayers Union questions the propriety of spending $2.5 million for a secret report intended to justify a bailout.

DOE, the Nuclear Utilities, Smith Barney, and the Senate Energy Committee Are Playing with the "National Security Argument." The chief justification offered for the bailout of the enrichment enterprise is "national security." That seems to be the only justification proffered by Smith Barney in the publicly released and fact-expurgated "Executive Summary" to the Smith Barney Report. But DOE itself is actively seeking authority to buy Soviet enriched uranium for distribution in the U.S., and the nuclear utility industry suggests that it is content to rely on foreign enrichment services. Using the words "national security" in an argument does not mean that the public should ignore the patent inconsistencies in what DOE and the nuclear utility industry say and what they do.

Taxpayer-enriched uranium ripoff?

$12 billion bailout sought

Illustration by Tony E. Smith. Special to The Washington Times

This week, the nuclear power industry's shills in the Senate are trying to try and stick us with a $12 billion bill that should be paid by the nation's electrical utilities.

This is the bottom line of Senate Bill 1846, co-sponsored by Democratic Sen. Wendell H. Ford of Kentucky, Republican Sen. Pete V. Domenici of New Mexico and Democratic Sen. J. Bennett Johnston of Louisiana.

Title III of this law would set up a separate new federal corporation to take over the Department of Energy's massive uranium enrichment [illegible], giving the new corporation (and its contract operator, the Martin Marietta Corp., who wrote much of this bill) all of its valuable assets, but absolving it, and its nuclear power utilities customers of all past liabilities.

Those "liabilities" include nearly $9 billion in accumulated "unrecovered" costs since 1971, and approximately $3 billion in projected costs to decommission and detoxify its three major obsolete plants in Portsmouth, Ohio; Paducah, Ky.; and Oak Ridge, Tenn. (See table.)

Under Title II the only "liabilities" the new corporation would still have are $364 million in unrecovered costs, some $300 million of which will be paid out to the major uranium suppliers, including Kerr-McGee, Union Carbide, Homestake, Conoco, Anaconda and Exxon to clean up "uranium mill tailings," the sandy and deadly residue from the production of uranium.

Yet even that represents a "cop-out," because under the 1978 Uranium Mill Tailings Control act, those companies were supposed to handle that cleanup at their own expense.

But that is minor compared to the $12 billion in unrecovered costs. Under Section 161v and related provisions of the Atomic Energy Act (42 USC 2201v) the Department of Energy is required to recover all of the costs, including imputed interest and capital costs associated with the civilian uranium enrichment program.

An article by Washington Attorney Charles Montange in the University of Kentucky's Journal of Mineral Law and Policy (1986-87 Vol. 1, "The Federal Uranium Enrichment Program") argues that the DOE now has the power to force all its customers to pay to recover all costs and to force them to honor all of their demand commitments as well by limiting import competition.

Those provisions were in the law very largely at the instigation of the utilities themselves, which, back in the 1970s, demanded an unimpeachable and expanding source for their uranium, and they were more than willing to pay for it.

Indeed, at the time, they argued that even though the General Accounting Office was opposed to building the expensive new gas diffusion capacity at Portsmouth, Ohio (which is now being abandoned), they were willing to pay for it just for supply protection.

Unfortunately, a lot of water has gone over that particular dam with the [illegible] at Three Mile Island and Chernobyl, and the cancellation of 100 or more nuclear plants on the drawing boards.

Perhaps the biggest blow that has happened is the development of far more efficient and low-cost methods of enrichment, as well as the major expansion of capacity overseas. The result is that by 1981 the United States had lost half of its world enrichment market — and was on a $4 billion hook for building capacity that was obsolete, but which the utilities had demanded.

Now the industry wants to be legally absolved of those bills, and have a brand-new "debt free" enrichment source, fully outfitted with the latest in laser-based technology (courtesy of the taxpayers) and able to sell their product at a world "competitive price." If they don't get it, they threaten to take their business to Europe or [illegible]. They even argue that they can send uranium to Russia and get it enriched cheaper than by [illegible].

Even though a recent analysis by the Congressional Research Service suggests such a threat is idle (because not enough unused capacity exists overseas to handle any significant share of the U.S. demand), Congress is falling all over itself to cave in.

URANIUM ENRICHMENT PROGRAM

COSTS AND LIABILITIES 1971-86 — in millions of dollars

Operation Costs	$13,595.4
Plant Upgrades	+ 1,477.7
Portsmouth Ohio Gas Centrifuge	+ 3,345.4
Total Appropriated Costs	$18,418.8
Imputed Interest Costs	+ 5,511.1
Plus Original Investment	+ 1,508.0
Total Government Costs	$25,437.9
Less Revenues from Utilities	− 16,626.9
Unrecovered Costs	$ 8,811.0
Plus Liabilities for De-Commissionings	+ 3,000.0
TOTAL TAXPAYER LIABILITIES	$11,811.0

The Washington Times

This is in spite of the fact that it would only take about 2 mills per kilowatt hour in additional charges over the next 10 years to wipe out all current liabilities to the taxpayers.

Sensing the industry's shills were [illegible] last December's [illegible] administration [illegible] approach to this problem. In Section 306 of that bill is the following "book-burning" clause:

"No funds appropriated or made available under this or any other Act shall be used by the executive branch for studies, reviews, to solicit proposals, to consider unsolicited proposals, undertake any initiatives or draft any proposals to transfer out of federal ownership, management or control in whole or in part, the facilities, assets, and functions of the uranium supply and enrichment program. . . ." In other words, you can't even study a more attractive economic alternative!

In spite of this, the administration now wants Congress to allow a study of the possibilities of turning the entire civilian enrichment program over to a private for-profit contractor.

Barring that, they suggest that the Senate get from the proposed new corporation at least [illegible] out of about the imputed current value of its productive operating assets, as well as to accept full responsibility for all decommissioning and detoxification of the old plants.

Thus would still leave the taxpayers stuck with about $6 billion in "unrecovered" costs, but it would also end the hemorrhage of up to $1 billion a year from the U.S. Treasury.

Although this would be a massive improvement over the Senate proposal, the best idea comes from the National Taxpayers Union, whose lobbyists are trying to get friendly senators Democrat William Proxmire of Wisconsin and Republican Gordon J. Humphrey of New Hampshire to push an alternative proposal which would use the privatization route but force the new corporation to charge its utilities customers the full $12 billion in recovery costs — using the Atomic Energy Act as their legal club.

The administration, while sympathetic to the NTU position, argues that it is unrealistic, because the world market can deliver more capacity at very much lower costs — and because the DOE has not exactly been a world beater at running the program.

That's certainly true — but not much of an excuse [illegible] that demanded [illegible] — and now [illegible] pay for it.

Who stands up for the taxpayers?

[illegible]

NATIONAL TAXPAYERS UNION

A NONPARTISAN NONPROFIT ORGANIZATION DEDICATED TO THE PUBLIC INTEREST

325 PENNSYLVANIA AVENUE SOUTHEAST WASHINGTON DISTRICT OF COLUMBIA 20003 TELEPHONE AREA CODE (202) 543-1300

BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES
INTERIOR AND INSULAR AFFAIRS COMMITTEE
ENERGY AND ENVIRONMENT SUBCOMMITTEE

Testimony on behalf of
The National Taxpayers Union

by Charles H. Montange, Counsel

in connection with

Oversight Hearing on Licensing of
Uranium Enrichment Facilities

6 March 1990

Mr. Chairman and members of the Subcommittee, my name is Charles H. Montange. I serve as counsel to the National Taxpayers Union on a number of matters, including the federal government's policies relating to the provision of uranium enrichment services. The National Taxpayers Union (NTU) is a non-profit public interest corporation representing the interests of the general taxpayer, and dedicated, among other things, to cutting waste and unnecessary subsidies in government spending. My testimony is on behalf of the National Taxpayers Union.

Mr. Chairman, I wish to be absolutely clear that NTU favors private enterprise and, more particularly here, ultimate privatization of the federal government's uranium enrichment program. Taxpayers have taken a multi-billion dollar beating under the current uranium enrichment program and the hemorrhage of dollars continues each year. However, whenever the words "uranium enrichment" are spoken on Capitol Hill in connection with legislation, it is imperative that extra care be taken to prevent making U.S. taxpayers significantly worse off than they already are.

Summary. As we understand this oversight hearing, the Subcommittee is considering concepts developed in the Senate to facilitate the licensing of a private uranium enrichment facility in Louisiana before the Nuclear Regulatory Commission (NRC). I will generalize greatly and state the problem as follows: Directly at issue is whether that facility must apply for a "facility" license, like a nuclear power reactor, or may be regulated under an NRC "materials" license. Regulation under a "materials" license will presumably be less stringent, and is urged by proponents of such treatment on the ground that uranium enrichment plants are more similar to chemical plants than to nuclear reactors.

From NTU's vantage point, this debate is missing what to us is the key issue: what does treating uranium enrichment facilities as "chemical plants" mean with respect to the viability of the Department of Energy's uranium enrichment program, and the billions of dollars of "unrecovered costs" and decommissioning liabilities which that program has already accrued? We fear it would spell further disaster absent a far more comprehensive congressional initiative.

More particularly, if Congress and NRC facilitate the creation of a new DOE competitor, then Congress and NRC are rendering it that much more difficult for DOE (or some successor of DOE) to recover any of the $10 billion in taxpayer subsidies to the federal uranium enrichment program to date, or to recover any of the roughly $6 billion in unfunded decommissioning liabilities. Congress should solve the federal uranium enrichment program's problems -- and should do so in a fashion that is not at taxpayer expense -- before it helps create a competitor for the DOE program and makes the federal taxpayers' plight worse.

The federal government's uranium enrichment program has been a multi-billion dollar disaster for taxpayers. The uranium enrichment program in the United States to date has been a federal government monopoly. Under section 161v. of the Atomic Energy Act, 42 U.S.C. § 2201v., adopted in 1964, the program was set up as a kind of utility, serving nuclear electrical utilities. Section 161v. precluded the federal program from reaping monopoly profits, but required the program to recover all of its costs from its customers. These costs included depreciation, operating costs, and return on investment. The very clear point of all this was that the program in no event was to operate at any cost -- direct or indirect -- to U.S. taxpayers.

Unfortunately, the provisions of section 161v. were forgotten or ignored by the Department of Energy, which after various reorganizations obtained control of the program. The federal uranium enrichment enterprise under DOE's tutelage has accrued "unrecovered costs" which we understand would now total over $10 billion,[1] but for DOE "write-off's." The General Accounting Office has repeatedly found these "write-off's" to be unlawful,[2] and we profoundly support GAO's position. A "write off" as used here is simply a euphemism for a huge taxpayer subsidy, contrary to law, and contrary to what the utility industry claimed it would ever countenance to happen.

Further, DOE estimates for liability for environmental remedial action and decommissioning costs at the three existing uranium enrichment plants run around $6 billion.[3] One of these plants -- Oak Ridge -- has already been shut down permanently. None of these costs have been recovered from DOE customers, and all will fall on the shoulders of federal taxpayers unless Congress takes some astute action, which it has thus far not done although we have been complaining for half a decade.

Equally unfortunate, DOE has purported to enter into uranium enrichment contracts which GAO has found to contain *ultra vires* (illegal and unenforceable) terms guaranteeing ceiling prices to its customers so low that costs cannot be fully recovered, and certainly so low that the federal program will not turn a profit.

In sum, the DOE enrichment program has lost an enormous amount, it has accrued additional unfunded liabilities, and it has illegally painted itself into a corner.

The various proposals emanating from the Senate dealing with the federal program would compound this fiscal disaster. So far, all proposals emanating from the Senate to address these problems do so at taxpayer expense and are designed to foster the interest of DOE customers and special interest groups. All

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[1] Statement of K. Fultz for GAO, July 26, 1989, at p. 2, before the Subcommittee on Energy Research and Development, House Committee on Science, Space and Technology ($9.6 billion at end of FY 1988).

[2] DOE's initial effort to take a "write-off" is documented at OMB, Major Policy Initiatives 88 (1986) (write-off to about $ 3.5 billion); 51 Fed. Reg. 3629 (Jan.29, 1986). GAO says that the write-off is beyond DOE's authority. *E.g.*, Letter, Comptroller General to the Honorable John Dingell, Dec. 27, 1984; Letter, Comptroller General to the Honorable Edward J. Markey, Feb. 19, 1986.

[3] Environmental clean-up and decommissioning costs, which we sometimes collectively refer to as decommissioning costs herein, are estimated by GAO, based on DOE data, at approximately $ 6 billion. GAO, Uranium Enrichment (GAO/RCED-89-170BR) 29-37 (July 1989).

Senate proposals thus far involve (1) repeal of the one taxpayer protection in the law (i.e., repeal of section 161v.), (2) approval of the $10 billion illegal "write-off," (3) effective ratification of that illegal ceiling price contract under which the program cannot earn its costs, much less a profit, and (4) only a few vague provisions aimed at addressing the problem of vast unfunded liabilities for decommissioning of the three existing plants. Further, the proposals authorize the program to borrow several billion -- presumably what is left of its remaining assets -- before it finally collapses. Respectfully, these Senate proposals are recipes for disaster for taxpayers. They will drain out what value is left in the program. They are not reform; they are compounding a disaster.

Proponents of the multi-billion dollar taxpayer funded federal program bail-out are being inconsistent and by their own arguments are undercutting taxpayer interests through the current "chemical plant" regulatory proposal. DOE and the nuclear utilities supporting the Senate's uranium enrichment bail-out legislation may try to justify the Senate legislation, as they have in the past, by claiming that any recovery of past "unrecovered costs" or unfunded decommissioning liabilities is precluded by "competition." The only "competition" to date is from abroad, and although it is definitely there are the margin, it would not have precluded considerably higher prices by DOE for the past five years, and for at least about five more years into the future, to recover some of these billions which are otherwise being illegally foisted on taxpayers' shoulders. DOE quite literally has left, and is leaving, billions "on the table."

But here is the rub. Let us take the nuclear utility argument at face value and assume that competition is preventing DOE from recovering its costs or making a profit. If adopting legislation permitting a private uranium enrichment facility in Louisiana to operate as a chemical plant will facilitate that "competition," then Congress -- in the argument of the nuclear utilities and DOE -- will be further undermining DOE's ability to recover costs. This means Congress will be facilitating further taxpayer losses.

This alone would not give us pause, for we support free enterprise solutions, but there is an additional factor, which seems to us to render treatment of the "chemical plant" issue in isolation downright foolish. That additional factor is that Congress, at least in the Senate, is thus far nowhere close to adopting legislation that would put the federal government's enrichment program on a competitive footing. Facilitating competition for DOE's program while DOE's program is hamstrung amounts to cutting off the taxpayers' nose to spite his face.

We accordingly recommend as follows:

(1) The issue of regulatory treatment of uranium enrichment facilities by NRC be worked out in conjunction with, and certainly not before, genuine reform of DOE's uranium enrichment program.

(2) Before any new enrichment facilities are licensed, or proposed for same, Congress should first establish a funding mechanism, preferably a legally enforceable separate trust fund, to absolutely assure that all costs for environmentally remedial action and decommissioning associated with DOE's uranium enrichment program that are properly attributed to commercial customers are in fact recovered from DOE's commercial customers. This may (and probably will if the nuclear utilities' are correct in their claims about competition limiting DOE's ability to recover decommissioning and other costs), require the imposition of a user fee like that embodied in the Nuclear Waste Policy Act upon all current and presumably past users of the DOE facilities.

(3) Congress should reorganize the DOE program and provide that its managers have a legally enforceable duty to maximize the program's profits. As an absolutely essential corollary, Congress should not ratify the illegal "ceiling price" uranium enrichment contracts that DOE has entered that bars the agency from recovering costs or making a profit.

There is another aspect of the "chemical plant" scheme that gives us pause. The Senate in the past explicitly, and the nuclear utilities implicitly, have resisted privatization of the federal uranium enrichment program on the ground that the utility industry does not wish to invest in the enrichment enterprise, or that enrichment is inappropriate for private ownership. This "position" -- which has been used against reorganizing the program so it operated like a business and protected taxpayer interests -- is clearly inconsistent with the "new" position of the Senate and the utilities in favor of facilitating the proposed private enrichment plant in Louisiana.

Further, Urenco, the European-government owned consortium that will provide the technology for the Louisiana plant, will not invest unless there is equity participation by its utility partners, or essentially guarantees of a market for a long enough period to assure recovery of Urenco's costs. If some of our domestic utilities are willing to participate by putting up equity or other assurances of cost recovery for Urenco, why are they unwilling to do so for DOE's enrichment program? Do they simply think that they can foist the costs of DOE's program off on the taxpayers? We think so, and they should be disabused of that notion.

This leads to another criterion for a restructured DOE program. Rather than encourage that program to borrow money on its few remaining assets as the Senate's various proposals do, the "new" DOE program should be admonished to insist on equity participation by utilities, or for guarantees of a market sufficient to recover costs as a condition for further investment. The program should not be run with the notion that it is supposed to guarantee to meet utility needs with taxpayers assuming all the downside risks. If we are facing a competitive world in the uranium enrichment area, then reform DOE's program so it acts like a competitor -- an entity out to maximize profits for its shareholder, the U.S. taxpayer.

We encourage this Subcommittee, before it acts to facilitate the Louisiana project, to first obtain a study from the General Accounting Office with respect to the impact of the Louisiana project on the ability of the DOE program, in its current form or in the form proposed by the Senate, to recover its costs, and to make a profit.

Conclusion. Mr. Chairman and members of the Subcommittee, we, and we believe you, would be foolish to treat NRC safety regulation issues for uranium enrichment in isolation from the history and political dynamics of the federal uranium enrichment enterprise. If you do sever the issues, you risk foisting billions of dollars more in liabilities on the U.S. taxpayer. And that liability is nothing more than a needless subsidy for a mature industry. It is giving away the store. We all know the size of the enormous federal deficit. Please help us stop from adding to it. Thank you for this opportunity to testify.

Mr. WOLPE. Thank you, Madam Chairman.

During this Congress, our Subcommittee has held several hearings regarding the DOE's uranium enrichment program, and I have at these times expressed my own concerns about its operation. We all know that under current law—that is, the Atomic Energy Act—the Federal uranium enrichment program is supposed to recover all costs, including depreciation and return on investment, from its customers, the nuclear utility industry. I assume that we all agree that the American taxpayer should not—indeed cannot in this day of runaway Federal deficits—pick up the tab for the utility industry. Unfortunately, the gloomy reality is that the American taxpayer is, in fact, footing the bill to the tune of billions of dollars in unrecovered costs.

According to the General Accounting Office, as of the end of 1988 DOE had failed to recover $10 billion in program costs. Additionally, GAO estimates that the Department of Energy has declined to set aside money to decommission the three existing uranium enrichment plans, at an additional cost of some $4 billion to $6 billion—and I understand those are low-end estimates.

I am hoping that today the Department of Energy and Smith Barney can shed some light on their figures, which report, if I understand their claim, a $1.7 billion over-recovery, not, as GAO has cited, a $10 billion deficit of unrecovered costs.

Second, if it is true—as I believe it is—that decommissioning expenses for DOE's three uranium enrichment plans are legitimate costs providing civilian uranium enrichment services, then why is it that the Smith Barney report recommends that the taxpayer, rather than the customer, bear all of the decommissioning expenses?

Finally, given the enormous unrecouped billions of dollars that the American taxpayer has pumped into past uranium enrichment facilities, how on earth can we now receive a recommendation as part of the Smith Barney report that the taxpayer yet again finance a huge AVLIS plant?

These are some of the questions that I am looking forward to hearing answers to in the course of the testimony this morning. Again, I very much appreciate the calling of this hearing so that we can probe these questions.

Thank you very much, Madam Chairman.

Mrs. LLOYD. Thank you, Mr. Wolpe. I would say to my colleague that the purpose of the hearing today is not to debate the Smith Barney report. We are here to learn the findings of the report. That's the reason that Mr. Zarb, Mr. Timbers, and Mr. Moore are here. I would hope that we could not pre-judge the report before we have a chance to hear from our witnesses today.

In the interest of time, and to provide a frank and a thorough exchange, we are changing our structure this morning. Today we will have one panel for our witnesses. We will first hear their prepared statements, as we always do, and then the Subcommittee Members will have a question and answer period for all three on our panel.

We are pleased to have our old friend, Deputy Secretary Henson Moore, with us today—our former colleague. Mr. Secretary, thank you for being here today.

Seated next to Secretary Moore is Mr. Frank Zarb. I first met Mr. Zarb when I came to Congress about 15 or 16 years ago. Certainly he is a very knowledgeable man. He is Chairman, President, and Chief Executive Officer of Smith Barney. He was formerly, as I stated, with the Federal Energy Administration. More recently he was involved with the creation of Conrail, which is another successful government corporation that has turned to private entity.

Accompanying Mr. Zarb is Mr. Nick Timbers. Mr. Timbers is the Managing Director at Smith Barney and was the project leader for the independent financial assessment which we are going to be discussing. We think you have done a good job on this report, Mr. Timbers, and we thank you for being here, as well.

Mr. Secretary, we will begin with your testimony. Please proceed.

STATEMENT OF HON. W. HENSON MOORE, DEPUTY SECRETARY, U.S. DEPARTMENT OF ENERGY, WASHINGTON, DC

Mr. Moore. Thank you, Madam Chairwoman.

I am very pleased to be here this morning to discuss the recent developments in the Department of Energy's uranium enrichment program, specifically the recently completed report by Smith Barney, Harris Upham and Company. A copy of the complete report has been provided to the Members of the Committee, and with your permission I would like to submit the executive summary, along with an abridged version, which has had the proprietary and business sensitive data removed, for the record.

Mrs. Lloyd. Without objection.

Mr. Moore. We are fortunate that a company of Smith Barney's caliber was able to provide an independent—and I do want to stress the word independent—assessment of the Department's uranium enrichment enterprise and the optimal structure of the enterprise for the future.

Frank Zarb, Smith Barney's Chairman, has enormous experience with government entities that have adopted various characteristics of private industry—most notably, Conrail. Based on our knowledge of Mr. Zarb and Smith Barney, we knew that we would receive a thorough, first-rate evaluation of the utmost integrity and objectivity. We didn't know what he would report and we took a real chance. We were not disappointed.

Smith Barney's report contains a number of important findings and recommendations. I would like to briefly discuss three that I consider to be the most important.

First, Smith Barney's most noteworthy conclusion is that the best way to maximize the value of DOE's uranium enrichment operations to the U.S. Treasury is to establish a true business enterprise in the private sector. However, the report finds that immediate transfer to the private sector is not feasible today because of the current organizational structure, unknown contingent liabilities, the absence of a clear regulatory requirements for existing and new technology, lack of a commercial track record, and uncertainties associated with the evolving short-term market.

As a result, Smith Barney recommends, as a first step, transferring the enterprise to a newly-created government corporation.

DOE supports this conclusion. It is fully consistent with the legislation the Administration supports and has been offered by the Chairwoman of this Subcommittee.

Secondly, unrecovered costs. In their May 15 report, Smith Barney estimated the uranium enrichment enterprise's unrecovered cost as of September 30, 1989, at $4.5 billion, without factoring in government policy costs—which we at DOE refer to in our figures as "write-offs." DOE's figure of $3 billion includes write-offs of some of these policy costs.

Table 1 attached to my testimony highlights the treatment of unrecovered costs between DOE and Smith Barney. Smith Barney initially declined to take a position on how these government policy costs should be handled. In response to requests by Members of Congress and the Department, Smith Barney provided additional analysis on June 15th that factored in these policy costs. Based on available precedents, Smith Barney concluded that it would be appropriate to write off nearly $5.7 billion, or 50 percent of the government policy costs. DOE computed these at $4.1 billion. Therefore, they stated that they believe there is no unrecovered cost and, in fact, there has been an over-recovery of $1.17 billion.

DOE has taken a different approach in arriving at our figure of $3 billion of unrecovered cost. By our calculation, the Treasury would get full return on its investment if it ultimately received $3 billion from the eventual sale of this enterprise and/or from dividend payments.

On a separate issue, Smith Barney recommended, as a practical approach to corporate competitiveness, that a government corporation be assigned an initial debt of zero. The Administration's proposed legislation set an initial debt of $364 million derived from net appropriations as of September 30, 1986. As the enrichment enterprise has made profits since the time that was first calculated in 1986, there is no longer an initial debt. Therefore, we agree fully with Smith Barney that the initial debt of the corporation should be zero.

Thirdly, the Atomic Vapor Laser Isotope Separation technology, or AVLIS. Smith Barney concluded that the AVLIS technology is sound, its deployment as a commercial enrichment process is technically possible, and that the successful deployment of AVLIS could give the enrichment enterprise a competitive advantage in the post-2000 time frame.

A special AVLIS review panel, organized by Smith Barney, concluded that the AVLIS deployment schedule projected by DOE could be delayed by up to five years, that capital costs could increase up to 100 percent, and that production costs could increase to $44 per separative work unit—SWU—which I point out is still well below today's production cost of $75 per SWU. They also found that the completion of an AVLIS technology demonstration by the end of 1992 is optimistic but achievable.

DOE takes exception to the report's conclusions regarding the schedule and costs for deployment of AVLIS technology. We think we can do better. The major objection the Smith Barney panel had with DOE's schedule was that licensing problems would cause a significant delay. They could.

We have allowed two years for such licensing, and have based this on consultation with experts in the field, recognizing the hazards associated with enrichment facilities are significantly less than those for the operation of nuclear power plants. Thus, the Smith Barney conclusion that the deployment could be delayed by five years we think is overly pessimistic, and we believe that AVLIS has the potential for enhancing our competitive position beginning in the late 1990s rather than in the post-2000 time frame, as Smith Barney concludes.

With respect to costs, we recognize that in the development of a new technology the costs of utilizing that technology are sometimes underestimated. We believe that there is no basis for doubling the cost, however, as the Smith Barney panel did. The last evaluation of capital cost for an AVLIS production plant was performed in 1989 for DOE, and confirmed our production cost estimates of $25 to $50 per SWU for a uranium metal-based fuel economy associated with the AVLIS technology.

We believe that Smith Barney's assumptions and judgments in this area were unnecessarily pessimistic as compared to those in our evaluation and, therefore, that our estimates are both realistic and achievable.

Next steps: Where do we go from here?

Most of the report's recommendations are consistent with current or planned activities, designed to improve the performance and enhance the competitive position of this billion-plus-dollar-a-year business. We have begun to implement such measures as we can, particularly in regard to a more rational management structure and cost cutting measures.

However, the additional steps that we can pursue under existing organizational constraints are limited and would not address the fundamental need for commercial flexibility. DOE steadily improved its operations since 1984, yet substantial problems remain ahead. While we pursue efficiency and competitiveness along a relatively limited number of paths, our foreign competitors can employ a much wider range of options.

Without passage of restructuring legislation, we cannot achieve the maximum effect from internal changes and the ability of the enrichment enterprise to compete effectively would continue to erode.

We are facing severe market pressures today that need to be addressed promptly. DOE's enrichment business used to have 100 percent of the free world enrichment market. We were the only one in the free world who did it. It now has less than 50 percent of that market, as represented by firm, fixed contracts, and this share is projected to decline significantly through the 1990s. If the enterprise remains a government agency, it will be unable to compete effectively, in our opinion, to be able to retain commercial customers.

We used to be the only free market enricher of uranium. Where a business would have fought to retain that position, the government closed its order books, quickly causing the emergence of two European competitors, Eurodif and Urenco. Now the Soviets have entered the commercial market in the free world, with heavily discounted enrichment prices. In addition, the prospects of a Louisiana Energy Services plant in the United States and a Japanese enrichment capacity by the end of the decade pose further competition.

The competitive pressure on this business is increasing relentlessly. We need to move fast to create a government corporation, or we can expect this business to lose further ground.

Smith Barney has confirmed that creation of an enrichment corporation is the best way to maximize the value of the enrichment operation. This study also found that a restructured government corporation would be able to provide reliable, competitively-priced enrichment, establishing a track record of successful operating and financial performance, make capital funding decisions based on economic rather than political factors, and conduct business in a less politicized environment so that it can be managed in an efficient and businesslike fashion.

I thank you, Madam Chairwoman, Congressman Morrison, and Congressman McEwen, and others for your leadership in bringing this issue before the House through your introduction of H.R. 2480. I would also like to thank the cosponsors that have provided support for this critically-needed legislation.

We hope that this Subcommittee and the other Committees with jurisdiction in the House will proceed to mark up legislation and report out a bill, and the House will pass legislation this session. If a bill does not pass this House this year, after being passed three previous times by the Senate, the prospects for a government enrichment corporation could be seriously dimmed.

I assure you that the Administration is committed to working with Congress to achieve passage during this calendar year. We believe we need to use every means possible to pass this legislation this year.

Thank you.

[The prepared statement of Moore follows:]

Statement of
W. Henson Moore
Deputy Secretary of Energy
Before the
Subcommittee on Energy Research and Development
Committee on Science, Space, and Technology
U.S. House of Representatives
July 11, 1990

Madam Chairwoman, I am pleased to be here this morning to discuss recent developments in the Department of Energy's (DOE) uranium enrichment program, specifically the recently completed report prepared by Smith Barney, Harris Upham and Company, Incorporated. A copy of the complete report has been provided to members of the Committee, and with your permission, I would like to submit the Executive Summary along with an abridged version, which has had the proprietary and business sensitive data removed, for the record.

We were fortunate that a company of Smith Barney's caliber was able to provide an independent (and I would like to stress the word independent) assessment of the Department's uranium enrichment enterprise and the optimal structure of the enterprise for the future. Frank Zarb, Smith Barney's Chairman, has enormous experience with Government entities that have adopted various characteristics of private industry, most notably Conrail. Based on our knowledge of Mr. Zarb and of Smith Barney, we knew that we would receive a thorough, first-rate evaluation of the utmost integrity and objectivity. We were not disappointed.

Smith Barney's report contains a number of important findings and recommendations. I would like to briefly discuss three that I consider to be most important.

KEY FINDINGS AND RECOMMENDATIONS

Maximizing Value to the Treasury

Smith Barney's most noteworthy conclusion is that the best way to maximize the value of DOE's uranium enrichment operations to the U.S. Treasury is to establish a true business enterprise in the private sector. However, the report finds that immediate transfer to the private sector is not feasible today because of the current organizational structure, unknown contingent liabilities, the absence of clear regulatory requirements for existing and new technology, lack of a commercial track record, and uncertainties associated with the evolving short-term market. As a result, Smith Barney recommends, as a first step, transferring the enterprise to a newly-created Government corporation.

DOE supports this conclusion. It is fully consistent with the Administration's proposed legislation to restructure the uranium enrichment enterprise.

Unrecovered Costs

In their May 15 report, Smith Barney estimated the uranium enrichment enterprise's unrecovered cost as of September 30, 1989, at $4.5 billion, without factoring in Government policy costs (referred to as "write-offs" by DOE). DOE's figure of $3 billion includes write-offs of some of these policy costs. Table 1 highlights the treatment of unrecovered costs. Smith Barney initially declined to take a position on how these Government policy costs should be handled. In response to requests by members of Congress and the Department, Smith Barney provided additional analysis on June 15, that factored in these policy costs. Based on available precedents, Smith Barney concluded that it would be appropriate to write off nearly $5.7 billion, or 50 percent of Government policy costs. (DOE computed these as $4.1 billion.) Therefore, they stated that they "believe there is no unrecovered cost, and, in fact, there has been an over-recovery of $1.17 billion."

DOE has taken a different approach in arriving at our figure of $3 billion of unrecovered cost. By our calculation, the Treasury would get full return on its investment if it ultimately received $3 billion from the eventual sale of this enterprise and/or from dividend payments.

On a separate issue, Smith Barney recommended, as a practical approach to corporate competitiveness, that a Government corporation be assigned an initial debt of zero. The Administration's proposed legislation set an initial debt of $364 million derived from net appropriations as of September 30, 1986. As the enrichment enterprise has made profits since the time it was first calculated (1986), there is no longer an initial debt. Therefore, we agree with Smith Barney that the initial debt of the corporation should be zero.

Atomic Vapor Laser Isotope Separation (AVLIS) Technology

Smith Barney concluded that the AVLIS technology is sound, its deployment as a commercial enrichment process is technically possible, and that the successful deployment of AVLIS could give the enrichment enterprise a competitive advantage in the post-2000 timeframe. A special AVLIS review panel, organized by Smith Barney, concluded that the AVLIS deployment schedule projected by DOE could be delayed by up to 5 years, capital costs could increase 100 percent and production costs could increase to $44 per separative work unit (SWU), which is still well below today's production cost of $75 per SWU. They also found that the completion of an AVLIS technology demonstration by the end of 1992 is optimistic but achievable.

DOE takes exception to the report's conclusions regarding the schedule and costs for deployment of AVLIS technology. The major objection the Smith Barney panel had with DOE's schedule was that licensing problems would cause a significant delay. We have allowed 2 years for such licensing and have based this on consultation with experts in the field, recognizing that the hazards associated with enrichment facilities are significantly less than those for nuclear power plants. Thus, the Smith Barney conclusion that deployment could be delayed by 5 years is overly pessimistic and we believe that AVLIS has the potential for enhancing our competitive position beginning in the late 1990s, rather than the post-2000 timeframe as Smith Barney concludes.

With respect to costs, we recognize that in the development of a new technology the costs of utilizing that technology are sometimes underestimated, but we believe that there is no basis for doubling the cost estimates as the Smith Barney panel did. The last evaluation of capital cost for an AVLIS production plant was performed in 1989 for DOE and confirmed our production cost estimates of $25 to $50 per SWU for a uranium metal-based fuel economy associated with the AVLIS technology. We believe that Smith Barney's assumptions and judgments in this area were unnecessarily pessimistic as compared to those in the evaluation and, therefore, that our estimates are both realistic and achievable.

NEXT STEPS

Most of the report's recommendations are consistent with current or planned activities, designed to improve the performance and enhance the competitive position of this billion-plus-dollar-a-year business. We have begun to implement such measures as we can, particularly in regard to a more rational management structure and cost cutting measures.

However, the additional steps that we can pursue under existing organizational constraints are limited and would not address the fundamental need for commercial flexibility. DOE has steadily improved its operations since 1984, yet substantial problems remain ahead. While we pursue efficiency and competitiveness along a relatively limited number of paths, our foreign competitors can employ a much wider range of options. Without passage of restructuring legislation, we cannot achieve the maximum effect from internal changes and the ability of the enrichment enterprise to compete effectively continues to erode.

We are facing severe market pressures today that need to be addressed promptly. DOE's enrichment business used to have 100 percent of the free world enrichment market. It now has less than 50 percent of the market and this share is projected to decline significantly through the 1990s in firm contracts. If the enterprise remains a Government agency, it will be unable to compete effectively to retain commercial customers. We used to be the only free market enricher of uranium. Where a business would have fought to retain that position, the Government closed its order books, quickly causing the emergence of two European competitors, Eurodif and Urenco. Now the Soviets have entered the market with heavily discounted enrichment prices. In addition, the prospects of a Louisiana Energy Services plant in the United States and Japanese enrichment capacity by the end of the decade pose further competition.

The competitive pressure on this business is increasing relentlessly. We need to move fast to create a Government corporation or we can expect this business to lose further ground.

Smith Barney has confirmed that creation of an enrichment corporation is the best way to maximize the value of the enrichment operation. This study also found that a restructured Government corporation would be able to provide reliable, competitively-priced enrichment, establish a track record of successful operating and financial performance, make capital funding decisions based on economic rather than political factors, and conduct business in a less politicized environment so that it can be managed in an efficient, businesslike fashion.

Madam Chairwoman, I appreciate the support that you have shown for passage of critically needed legislation. We hope that this Subcommittee and the other committees with jurisdiction in the House will proceed to mark-up legislation and report out a bill, and that the House will pass legislation this session. If a bill does not pass the House this year, after being passed three previous times by the Senate, the prospects for a Government enrichment corporation could be seriously dimmed.

I assure you that the Administration is committed to working with Congress to achieve passage during this calendar year. We need to use every means possible to pass this legislation this year.

I would be glad to answer any questions you might have.

TABLE 1
UNRECOVERED COSTS
Costs in Billions of $

	DOE		SMITH BARNEY	
Initial 1969 Value	$1.5		$1.5	
Increases				
Interest	5.9		7.5	(1)
Subtotal	7.4		9.0	
Decreases				
Surplus Cash Flow	-0.3		-0.3	
Cost Adjustments	0.0		-4.2	(2)
Write-Offs of Policy Costs	-4.1	(3)	-5.7	(3)
Total Decreases	-4.4		-10.2	
Sept 30, 1989 Value	$3.0		($1.2)	

Notes: (1) Smith Barney added interest costs relating to DOE's write-off of $4.1B.

(2) Smith Barney reduced DOE's production cost that should have been applied to Defense customers ($1.1B), carrying costs for uranium inventories ($1.5B), costs of uranium applied to overfeed the enrichment plants ($0.6B), interest based on fixed versus variable rates ($0.9B), and other miscellaneous items ($0.1B).

(3) DOE wrote off Policy Costs for GCEP ($2.9B) and excess GDP capacity ($1.2B).

Smith Barney wrote off $5.7B or 50% of the following Policy Costs:

(1) GCEP	$2.9B
(2) Excess GDP capacity	$1.2B
(3) TVA payments	$2.6B
(4) Associated interest on the above 3 items	$4.7B
Total	$11.4B

06/27/90

Mrs. Lloyd. We thank you, Mr. Secretary.

Mr. Zarb, we now look forward to your testimony.

STATEMENT OF FRANK G. ZARB, CHAIRMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER SMITH BARNEY, HARRIS UPHAM & CO., INC., NEW YORK, ACCOMPANIED BY WILLIAM H. (NICK) TIMBERS, MANAGING DIRECTOR, SMITH BARNEY, HARRIS UPHAM & CO., INC., NEW YORK,

Mr. Zarb. Thank you, Madam Chairman and Members of this Subcommittee. I appreciate the opportunity to appear before you today and present the testimony of Smith Barney concerning the Department of Energy's uranium enrichment enterprise—or UEE, as I will refer to it—and the independent financial assessment of the UEE conducted by the Smith Barney team earlier this year.

I have with me Mr. Nick Timbers, who is a Managing Director of Smith Barney and was the team's leader.

The business environment and operations of UEE have been subjected to significant challenges and changes over the past decade. In recent years, various restructuring alternatives have been proposed to meet these challenges and, currently, several legislative proposals are being considered by the Congress.

In order to assist in these deliberations, the Department of Energy engaged Smith Barney, together with its project team, to conduct an independent financial assessment of UEE and the pending legislation.

As a preface to describing the assessment conducted by Smith Barney, I would like to first describe our view of the challenges the UEE faces today and will be facing in the future, because any restructuring must be responsive to these challenges.

The UEE was originally created in the 1950s to serve the military requirements of the government. Today, however, commercial utilities are its principal customers. In less than 20 years, the UEE has gone from a position of near global monopoly in supplying enriched uranium to the non-communist world, to a current market share of approximately 45 percent.

Intense competition in the marketplace will continue. This is due to significant existing inventories and excess enrichment capacity, with very little increase expected in world demand through the end of the century and beyond.

Utilities that purchase the UEE's enriched uranium have begun to notify the Department of Energy that they intend to terminate their long-term contracts. This trend toward termination, in our view, is expected to grow.

A significant low-cost spot market for enriched uranium has begun to develop, which utilities believe to be both broad and reliable. This movement toward a short-term market has been accelerated by the sale of low-cost inventories by foreign suppliers. The depth of existing supply and unused production capacity have caused a growing number of utility customers of the UEE to conclude that there is little risk of supply failure. Therefore, they view spot market purchases at reduced prices as not only reliable, but also cost effective and prudent. As this market develops further, it will put additional pressure on both the UEE's market share and its revenues.

Furthermore, the UEE is responsible for significant current and future environmental clean-up costs that are associated with continuing operations, as well as those costs associated with the ultimate decommissioning and decontamination requirements for the enrichment facilities.

It is these challenges, among others, that set the stage for a thorough and timely review of the optimal business structure of the UEE for future competitiveness that was conducted by our firm.

After assessing these challenges and evaluating the uranium enrichment market, Smith Barney concluded that the best way to maximize the value of enrichment operations to the Treasury, and to achieve other goals, is to establish a true business enterprise in the private sector. Fundamentally, a private entity would be the most viable form of business that could compete effectively in the global market.

However, we believe that such an immediate transfer would be impractical due to, among other reasons, the UEE's current organizational structure, unknown contingent liabilities, the absence of clear regulatory requirements for existing and new technology, lack of a commercial track record and uncertainties associated with the evolving short-term/spot market for enriched uranium purchases.

Furthermore, because of these factors, the sale of UEE to the private sector at this time would result, in our opinion, in significantly less than optimal value to the United States Treasury.

As a result, Smith Barney and its project team recommended, as a first step, the transfer of the UEE to a newly-created government corporation. We believe it is critical to establish this proposed government corporation in a manner that will permit it to operate in a business-like fashion. This necessitates that the government corporation, to the maximum extent possible, operate outside the political and bureaucratic environment that has historically affected the business operations of UEE. This can best be accomplished by forming the new government corporation with an organizational structure and other corporate attributes as close as possible to those of a private corporation. In addition, it is imperative that the corporation be free of those administrative and financial controls that constrain the operational efficiency and financial flexibility of a government agency.

This basic finding of our assessment takes into consideration certain key variables. Each of these key variables was determined to have a critically important effect on the UEE.

Power costs: the first key variable, power costs, accounts for 70 to 80 percent of all UEE's production costs, and almost 100 percent of marginal costs. It was determined through our assessment that the DOE's projections for power costs were reasonable. Further, we determined that DOE's power purchasing strategy was sound. This strategy emphasizes the use of inexpensive firm power for the UEE's base load operations at the Portsmouth GDP, and the use of a spot power for swing, that is, incremental, operations for the Paducah GDP.

AVLIS: the AVLIS technology was identified as a key variable. Based on our analysis and information provided to us by an independent technical panel, we concluded that AVLIS technology is sound, and its deployment as a commercial enrichment process is technically possible. While we concluded that the planned development program to demonstrate AVLIS was reasonable, we also believe that the schedule for AVLIS' commercialization is ambitious, largely due to the difficulties in obtaining environmental and regulatory approvals.

Even with the higher adjusted costs provided by the panel and the expected schedule uncertainties, we concluded that AVLIS is still the most attractive enrichment technology over the long term. However, the project team is concerned whether this technology can be commercially deployed in a timely manner to achieve its potential. As a result, the project team recommended that the development, deployment, and licensing of AVLIS be accelerated to the maximum extent possible.

The project team also believes that the continued development and subsequent deployment of AVLIS, along with other related costs, should be the responsibility of the new government corporation. In this manner, the future use of this technology will be based primarily on the commercial considerations rather than the type of conflicting political factors that has influenced other UEE capital investments.

Soviet supply: our third key variable concerns Soviet supply and other inventory sales. Our analysis indicated that the pricing of Soviet SWUs is not driven by cost recovery or any other conventional market principles, but rather a desire for hard currency. Because of this, attempts by the UEE or a restructured government corporation to compete on price would be fruitless and would be likely to result in downside price spiral. Instead of engaging in price competition, Smith Barney believes that the UEE or a restructured government corporation can significantly improve its position by directly purchasing Soviet SWUs and negotiating a concomitant reduction in additional Soviet sales.

Unrecovered costs: the fourth key variable addresses the issue of unrecovered costs. After careful analysis, Smith Barney and its project team have concluded that this preoccupation with how to divide the costs detracts from the central question of how best to insure that there is something to divide. In the reality of today's competitive uranium enrichment market, the questions are no longer how much you should charge, but rather how much you can charge in an effort to maximize profits; not how to best share the past costs, but how rather to minimize current and future costs so as to generate profits.

In assessing the economic feasibility of restructuring the UEE, our basic tenet was that the determination of a theoretical payback of unrecovered costs to various parties will have little meaning if the entity responsible for the repayment is not alive and well and generating profits to support a payback.

Thus, it is important to put the debate over unrecovered costs in the proper context. Whether or not the United States Treasury is being dealt with fairly in terms of pricing of SWUs is important to government officials and others who are concerned with this restructuring project. However, as a benchmark to the actual price to be charged in a competitive marketplace with overcapacity, this issue is irrelevant and potentially misleading in terms of creating a business-oriented entity with the objective of maximizing return to the United States Treasury.

Utilizing the independent expertise of Coopers & Lybrand, the accounting firm that was part of this project, the full range of costs involved in this debate was reviewed and analyzed.

In reliance on the Coopers & Lybrand analysis, the work of the project team reached a conclusion that there is no unrecovered cost. In fact, there has been an over-recovery of $1.170 billion. I'm sure we'll get into this further, Madam Chairman, during the questions that you will raise.

Environmental costs: environmental cleanup and compliance costs comprise a fifth key variable. Although the DOE has recently embarked on comprehensive investigations and plans to bring the GDPs into full compliance with environmental requirements, the UEE has only begun to deal with some of the more difficult problems.

Based on the work done to date, it is not possible to calculate all of the future expenditures that will be needed to satisfy environmental requirements or to quantify the broad range of contingent and other liabilities, with a reasonable degree of certainty. It is clear that much more work needs to be done to clarify the regulatory regime applicable to the GDPs.

The ultimate liability of the environmental side is likely to be a number far larger than anyone has officially acknowledged to date. Since the amounts involved would most certainly have an enormous negative impact on the viability of the UEE and any proposed restructuring, we have recommended that these costs associated with UEE operation prior to such restructuring should remain a direct liability and obligation of the United States Government.

Decontamination and decommissioning: the sixth and last of our key variables concerns the magnitude and handling of decontamination and decommissioning, or D&D costs, as they are called. Based on the documents supplied by the DOE and Martin Marietta, and interviews with members of both entities, Smith Barney and its project team determined that the D&D cost estimates presented to date cannot be relied upon with any degree of certainty.

We recommended that the complete D&D cost study be commenced. The costs associated with D&D activities will have a profound effect upon the economic viability of the UEE and any restructuring would be impacted by those projected costs. Smith Barney and the project team believe, however, that these D&D costs associated with UEE operations prior to any restructuring should remain a direct liability and obligation of the United States Government.

In light of this discussion of key variables, it is clear that the UEE has substantial preexisting liabilities relating to environmental cleanup and ongoing compliance and decommissioning and decontamination. Further, there are additional preexisting liabilities arising from the TVA contract settlement costs. These obligations arise from prior enrichment operations and are sunk costs that will exist whether UEE is shut down, restructured within the DOE, or transferred to a new profit-oriented entity outside the government. Estimates for these various costs range from billions of dollars and, in many cases, are not currently subject to quantification.

Efforts to directly recover all or significant portion of these sunk costs from the UEE's revenues, together with a proposed payback of "unrecovered government costs," are misdirected and ill-conceived in the context of historical objectives and future business requirements. A requirement to recover these costs would merely serve to create a debt burden and contingent liabilities that will make the ongoing enrichment operations not feasible, whether under their current structure or restructured either within or outside the government. These preexisting sunk costs should remain with the government.

Furthermore, and to the UEE's credit, in an increasingly competitive world market, where product prices have become the dominant criterion for nuclear utilities purchasing enriched uranium, the UEE has maintained operating profitability. However, this current and near-term profitability is based on long-term contract prices and cannot be sustained when lower priced, short-term prices or spot-market prices begin to dominate the marketplace.

Finally, it is important to note to this Subcommittee that implementation of these restructuring recommendations will not necessarily result in a near-term magic transformation of the UEE into an immediate, dynamic business enterprise, but rather it is the best way, in our opinion, to provide for the necessary operating efficiencies and financial flexibility to compete in a highly-competitive world market. It is the best way to maximize the value of this enterprise to the Treasury and to the American taxpayer.

It will take some time to implement these changes and realize the benefits of restructuring. However, if the United States is to be competitive in the 1990s, now is the time to effect these changes.

Madam Chairman, we hope that our independent financial assessment has contributed to the dialogue regarding the future of UEE. We are prepared to be of assistance in any way that is appropriate and constructive, and we are prepared to answer any questions at any time from anyone.

[The prepared statement of Mr. Zarb follows:]

Testimony of

Frank G. Zarb

Chairman, President

**Smith Barney, Harris Upham & Co.
Incorporated**

before the

Subcommittee on Energy Research and Development

Committee on Science, Space and Technology

U.S. House of Representatives

July 11, 1990

TESTIMONY OF

FRANK G. ZARB
CHAIRMAN, PRESIDENT
SMITH BARNEY, HARRIS UPHAM & CO. INCORPORATED

ON THE

DEPARTMENT OF ENERGY'S URANIUM ENRICHMENT ENTERPRISE AND THE INDEPENDENT FINANCIAL ASSESSMENT PREPARED BY SMITH BARNEY

BEFORE THE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES

JULY 11, 1990

Madam Chairman and Members of the Subcommittee:

I appreciate the opportunity to appear before you today to present the testimony of Smith Barney concerning the Department of Energy's Uranium Enrichment Enterprise (or the "UEE" as I will refer to it) and the independent financial assessment of the UEE conducted by Smith Barney earlier this year.

The business environment and operations of the UEE have been subjected to significant challenges and changes over the past decade. In recent years, various restructuring alternatives have been proposed to meet these challenges and, currently, several legislative proposals are being considered by Congress.

In order to assist in these deliberations, the Department of Energy engaged Smith Barney, together with its Project Team, to conduct an independent financial assessment of the UEE and the pending legislation.

As a preface to describing the assessment conducted by Smith Barney, I would like to first describe our view of the challenges the UEE faces today and will be facing in the future, because any restructuring must be responsive to these challenges.

The UEE was originally created in the 1950's to serve the military requirements of the Government. Today, however, commercial utilities are its principal customers. In less than twenty years, the UEE has gone from a position of near global monopoly in supplying enriched uranium to the non-communist world to a current market share of approximately 45 percent.

Intense competition in the marketplace will continue. This is due to significant existing inventories and excess enrichment capacity, with very little increase expected in world demand through the end of the century and beyond. Utilities that purchase the UEE's enriched uranium have begun to notify the DOE that they intend to terminate their long-term contracts. This trend toward terminations is expected to grow.

A significant low-cost spot market for enriched uranium has begun to develop, which utilities believe to be both broad and reliable. This movement toward a short-term market has been accelerated by the sale of low-cost inventories by foreign suppliers. The depth of existing spot supply and unused production capacity have caused a growing number of utility customers of the UEE to conclude that there is little risk of a supply failure. Therefore, they view spot market purchases at reduced prices as not only reliable but also cost-effective and prudent. As this market develops further, it will put additional pressure on both the UEE's market share and revenues.

Furthermore, the UEE is responsible for very significant current and future environmental clean-up costs that are associated with continuing operations, as well as the costs associated with the ultimate decommissioning and decontamination requirements for the UEE's enrichment facilities.

It is these challenges, among others, that set the stage for a thorough and timely review of the optimal business structure of the UEE for future competitiveness that was conducted by our firm.

After assessing these challenges and evaluating the uranium enrichment market, Smith Barney concluded that the best way to maximize the value of enrichment operations to the Treasury, and to achieve other goals, is to establish a true business enterprise in the private sector. Fundamentally, a private entity would be the most viable form of business that could compete effectively in the global market. However, we believe that such an immediate transfer would be impractical due to, among other reasons, the UEE's current organizational structure, unknown contingent liabilities, the absence of clear regulatory requirements for existing and new technology, lack of a commercial track record and uncertainties associated with the evolving short-term/spot market for enriched uranium purchases. Furthermore, because of these factors, the sale of the UEE to the private sector at this time would result in significantly less than optimal value to the Treasury.

As a result, Smith Barney and its Project Team recommended, as a first step, the transfer of the UEE to a newly-created government corporation. We believe it is critical to establish this proposed government corporation in a manner that will permit it to operate in a business-like fashion. This necessitates that the government corporation, to the maximum extent possible, operate outside the political and bureaucratic environment that has historically affected the business operations of the UEE. This can best be accomplished by forming the new government corporation with an organizational structure and other corporate attributes as close as possible to those of a private corporation. In addition, it is imperative that the corporation be free of those administrative and financial controls that constrain the operational efficiency and financial flexibility of a government agency.

This basic finding of our assessment is based, in part, upon an evaluation of certain "key variables". Each of these key variables was determined to have a critically important effect on the UEE.

Power Costs

The first key variable, power costs, accounts for 70% to 80% of all the UEE production costs and almost 100% of marginal costs. It was determined through our assessment that the DOE's projections for power costs were reasonable.

Furthermore, we determined that DOE's power purchasing strategy is sound. This strategy emphasizes the use of inexpensive firm power for the UEE's base load operations at the Portsmouth GDP, and the use of non-firm power for "swing", that is, incremental, operations at the Paducah GDP.

AVLIS

The AVLIS technology was also identified as a key variable. Based on our analysis and information provided by an independent technical Panel, we concluded that the AVLIS technology is sound and its deployment as a commercial enrichment process is technically possible. While we concluded that the planned development program to demonstrate AVLIS is reasonable, we also believe that the schedule for AVLIS commercialization is ambitious, due largely to difficulties in obtaining environmental and regulatory approvals. Even with the higher adjusted costs provided by the Panel and the expected schedule uncertainties, we concluded that AVLIS is still the most attractive enrichment technology over the long run. However, the Project Team is concerned whether this technology can be commercially deployed in a timely manner to achieve its potential. As a result, the Project Team recommended that the development, deployment and licensing of AVLIS be accelerated, where possible.

The Project Team also believes that the continued development and subsequent deployment of AVLIS, together with the related costs, should be the responsibility of a new government corporation. In this manner, the future use of this technology will be based primarily upon commercial considerations rather than the type of conflicting political factors that influenced other UEE capital investments.

Soviet Supply

Our third key variable concerns Soviet supply and other inventory sales. Our analysis indicated that the pricing of Soviet SWU is not driven by cost recovery or other conventional market principles but, rather, by a desire for hard currency. Because of this, attempts by the UEE or a restructured government corporation to compete on price would be fruitless and would be likely to result in a downward price spiral. Instead of engaging in price competition, Smith Barney believes that the UEE or a restructured government corporation can significantly improve its position by directly purchasing Soviet SWU and negotiating a concomitant reduction in additional Soviet sales.

Unrecovered Costs

The fourth key variable addresses the issue of "unrecovered costs". After careful analysis, Smith Barney and its Project Team have concluded that this preoccupation with how to divide the costs detracts from the central, and basically unrelated, question of how best to insure that there is something to divide. In the reality of today's competitive uranium enrichment market, the questions are no longer how much *should* you charge, but rather how much *can* you charge in the effort to maximize profits; not how best to *share* past costs, but rather how best to *minimize* current and future costs so as to generate profits. In assessing the economic feasibility of restructuring the UEE, our basic tenet was that the determination of a theoretical payback of unrecovered costs to various parties will have little meaning if the entity responsible for the repayment is not alive and well and generating profits to support a payback.

Thus, it is important to put the debate over unrecovered costs in the proper context. As a serious dialogue over whether or not the U.S. Treasury is being dealt with fairly in terms of the pricing of SWU, this debate is both relevant and important to government officials and others who are concerned about answering this question before taking any action related to restructuring the UEE. However, as a benchmark to the actual price to be charged in a competitive marketplace with overcapacity, this issue is irrelevant and potentially misleading in terms of creating a business-oriented entity with the objective of maximizing return to the U.S. Treasury.

Utilizing the independent expertise of Coopers & Lybrand, the accounting firm that was part of Smith Barney's Project Team, the full range of costs involved in this debate was reviewed and categorized.

In reliance upon the Coopers & Lybrand analysis, Smith Barney and the Project Team believe that there is no unrecovered cost and, in fact, there has been an over-recovery of $1.170 billion.

Environmental Costs

Environmental cleanup and compliance costs comprise a fifth key variable. Although the DOE has recently embarked on comprehensive investigations and plans to bring the GDPs into full compliance with environmental requirements, the UEE has only begun to deal with some of the more intractable problems.

Based on the work done to date, it is not possible now to calculate all the future expenditures that will be needed to satisfy environmental requirements, or to quantify the broad range of contingent and other liabilities, with a reasonable degree of certainty. It is clear that much more work needs to be undertaken to clarify the regulatory regime applicable to the GDPs, and that the ultimate liability on the environmental side is likely to be a number far larger than anyone has officially acknowledged to date. Since the amounts involved would most certainly have an enormous negative impact on the viability of the UEE and any proposed restructuring, we have recommended that those costs associated with the UEE's operations prior to such restructuring should remain a direct liability and obligation of the Government.

Decontamination and Decommissioning

The sixth and last of our key variables concerns the magnitude and handling of decontamination and decommissioning, or D&D costs as they are called. Based on the documents supplied by the DOE and Martin Marietta, and interviews with members of both entities, Smith Barney and its Project Team determined that the D&D cost estimates presented cannot be relied upon with any degree of certainty.

We recommend that a complete D&D cost study be commenced. The costs associated with D&D activities will have a profound effect upon the economic viability of the UEE and any restructuring would be impacted by the projected costs. Smith Barney and its Project Team believe, however, that those D&D costs associated with the UEE's operations prior to any restructuring should remain a direct liability and obligation of the Government.

* * *

In light of this discussion of key variables, it is clear that the UEE has substantial pre-existing liabilities relating to environmental cleanup and ongoing compliance and decommissioning and decontamination. Furthermore, there are additional pre-existing liabilities arising from the Tennessee Valley Authority contract settlement costs. These obligations arise from prior enrichment operations and are "sunk costs" that will exist whether the UEE is shut down, restructured within the DOE, or transferred to a new profit-oriented entity outside of the Government. Estimates for these various costs range in the billions of dollars and, in many cases, are not currently subject to quantification.

Efforts to directly recover all or a significant portion of these "sunk costs" from the UEE's revenues, together with a proposed payback of "unrecovered government costs", are misdirected and ill-conceived in the context of historical objectives and future business requirements. A requirement to recover these costs would merely serve to create a debt burden and contingent liabilities that will make ongoing enrichment operations infeasible, whether under their current structure or restructured either within or outside the Government. These pre-existing "sunk costs" should remain with the Government.

Furthermore, and to the UEE's credit, in an increasingly competitive world market, where product price has become the dominant criterion for nuclear utilities purchasing enriched uranium, the UEE has maintained operating profitability. However, this current and near-term profitability is based on long-term contract prices that cannot be sustained when lower priced, short-term purchases begin to dominate the market.

Finally, it is important to note to this Subcommittee that the implementation of Smith Barney's restructuring recommendations will not necessarily result in a near-term magic transformation of the UEE into a dynamic business enterprise. But rather, it is the best way, in my opinion, to provide for the necessary operating efficiencies and financial flexibility to compete in a highly competitive world market. It is the best way to maximize the value of this enterprise to the Treasury and to the taxpayers.

It will take some time to implement these changes and to realize the benefits of restructuring. However, if the United States is to be competitive in the mid-1990's, now is the time to effect these changes.

Madam Chairman, we hope that our independent financial assessment has contributed to the dialogue regarding the future of the UEE. We are prepared to be of assistance in any way that is appropriate and constructive.

Mrs. LLOYD. Thank you very much, Mr. Zarb.

Mr. Timbers, would you proceed?

Mr. TIMBERS. I don't have a prepared statement.

Mrs. LLOYD. All right. We are just going to ask you questions, is that right?

Mr. TIMBERS. Yes, ma'am.

Mrs. LLOYD. Thank you very much.

Mr. Secretary, did I read you correctly that the Department of Energy likes the part of the report dealing with the uranium enrichment enterprise, but has got a little bit of a problem with the AVLIS findings? Is that correct?

Mr. MOORE. Between the Department of Energy and Smith Barney?

Mrs. LLOYD. Yes, sir.

Mr. MOORE. Yes, there is a difference. I can understand Smith Barney's skepticism of government. Our record hasn't been all that great. We happen to think in this case, though, that we have significant expertise in dealing with matters of nuclear facilities, and so we think we can do it. But even if Smith Barney is right, the cost of SWUs would still be substantially below what our cost of production today is. And so while we think we can better that—we can have the cost come in lower and on-stream sooner—even if we are wrong and they are right, moving into this kind of legislation and moving AVLIS on line would still reduce the cost of our operation substantially.

Mrs. LLOYD. I was referring to the part of your testimony that you have allowed two years for such licensing based on your consultation with the experts in the field. For the record, would you tell us what experts provided this estimate?

Mr. MOORE. Yes. We dealt with a company called Scientech, who gave us the benefit of their experience on this. We dealt with Martin Marietta, who gave us their experience on this. We have had meetings with the Nuclear Regulatory Commission where we have discussed this, and we are expecting to use their new one-stop licensing procedure which they just implemented last year, which we think will cut time substantially over the previous records.

We point out that this is not a nuclear power plant, and so you can't use those time frames of how long the licensing procedures take, and that was under an old licensing procedure the NRC had, to boot.

In addition to that, we are looking at the Louisiana plant that is proposed to be built, and they are projecting two years for licensing, as well.

Mrs. LLOYD. Well, Mr. Secretary, I hope you are right, but it is my understanding—and although we know that enrichment facilities pose a safety risk, but isn't it a reality that enrichment facilities have to go through the same process as power reactors under 10 CFR part 50? Has this been taken into consideration in the licensing schedule?

Mr. MOORE. Yes, we have. I think the reasons I just gave you are still apropos. There is experience before the Nuclear Regulatory Commission in dealing with fuel fabrication, and we believe that this is more analogous to that than it is licensing a nuclear power plant. But, for the same reasons I gave a moment ago—there is a new procedure at the NRC, this isn't as potentially harmful as the operation of a nuclear power plant—the experts we have dealt with lead us to believe that our projection of two years is optimistic but achievable. We'll have to see if they are right. That could increase the cost, but the cost projections they come up with are still substantially below what our cost figures are today.

Mrs. LLOYD. Moving on to another area, I think we all pretty well agree that we need a value-maximizing strategy that half of nothing is still nothing, and also that security considerations dictate that we have a domestic supply of enriched uranium. But how would restructuring, for the record, to a government corporation help solve the problems? What is going to be different?

Mr. MOORE. What is going to be different is that you are going to allow the corporation structure to be able to make business decisions without doing it as a government decision. If you want to borrow money, you can borrow money; you don't come to Congress for authorization to do that. If you want to transfer money from one account to the other, you can do that without coming in here for reprogramming.

Just last year we had an opportunity to save $100 million on power purchases. We had to come to Congress and ask for an appropriation to be able to pre-pay for that power. Congress responded. But it may be possible that you have that opportunity when Congress is in recess or at the end of a session or for some reason with pressing business of the Congress it can't get to it.

So a private corporation has the flexibility to be able to operate like a business, which this is, rather than a government entity, which we now much do. So we have seen examples already that tell us that there is no question it will be able to operate more efficiently, and therefore hopefully maintain some ability to remain competitive until AVLIS comes on-line. I think it is that kind of a basic premise that Smith Barney has looked at and agrees with.

Mrs. LLOYD. For the record, what is your opinion of the enterprise if we don't restructure? What is it going to mean to national security? Where is the real urgency?

Mr. MOORE. If we can't restructure this into a business enterprise, looking at the spare capacity that is in the market now and going to be in the market as these additional operations in Japan and perhaps Louisiana, and as the Soviets really get into this business in the free world, we see capacity being in excess of demand. That means competition is going to be very, very keen. It means we are going to be forced to compete, as Mr. Zarb said, in the spot market as the growing trend of the buyers of SWUs is to go to the spot market rather than to fixed contracts.

And so as our fixed contracts all begin to play out, which they will by the year 2000, it means we are strictly up to the mercies then of how we can compete in that spot market. Until AVLIS comes on-screen--which it may not until the late 1990s or early 2000s, depending on whether Smith Barney is right or we are right—you've then got this enterprise in a position of where it may well not be making any sales in the domestic market.

Mrs. LLOYD. Then we would not have the 40 or 45 percent of the world's market if it were——

Mr. MOORE. On a fixed contract, that's right.

Mrs. LLOYD [continuing]. Not for the fixed contracts that——

Mr. MOORE. That's correct.

Mrs. LLOYD [continuing]. Before the excess capacity and the spot market purchases.

Mr. MOORE. If you go back to the 1970s we had 100 percent. Today we are at 40 percent. If you project that line out by what we think is going to happen to our contracts as they expire in not being renegotiated to fixed contracts, we are looking at almost zero by the year 2000.

Mrs. LLOYD. Can we take care of our national security needs without a domestic supply?

Mr. MOORE. Sure we can; it just means the taxpayer is going to pay for all of it. Right now the cost we project of our national security needs is about $120 million a year. If we had no domestic sale income coming in, our projection is that in about the year 2000, or something like that, you'd be looking at an additional $300 million coming out of the Treasury to run this rather than this enterprise putting money back into the Treasury, which has been the way it has been operating now for the last several years.

So yes, we could operate it. It just means it would be a 100 percent defense facility, 100 percent paid for by the taxpayers. I think Mr. Zarb would agree with me then the market value of that asset to the taxpayers would probably be next to nil.

Mrs. LLOYD. Mr. Zarb, would you like to comment on what this means to our national security and our competitiveness?

Mr. MOORE. If I could, Madam Chairwoman, I'd like to say that that's on the military side of the picture. Another question is: for the national energy strategy of this country, do we want to be in the position of where we are buying 100 percent of the enrichment uranium for our nuclear power plants from overseas? That's the flip side of the fact that we are not going to have the money and the revenue coming into this corporation which then flows to the taxpayers and maintains the asset value. But the fact remains you'd just be worsening our balance of trade, you'd be making this country ever more dependent on yet another form of energy, as we are now increasingly with oil. You would become that way for enriched uranium.

Mrs. LLOYD. Thank you very much, Mr. Secretary.

Mr. Zarb, would you like to comment on implications to our national security?

Mr. ZARB. I would certainly associate myself with the final comments of the Secretary. The fact is that we have an increasing dependence upon other sources for oil and, to some extent, for electric power in the Northeast and along the Northern tier. That trend is increasing.

It would seem to me not conceivable to not have an independent source of enriched uranium for United States utilities in the future.

In addition to which, we are, after all, the initiators of this program and should have a dominant place in the world marketplace. We have the technology capability, we have the ability to market, and we have the production capacity. For us to lose this market to others it seems to me, from a business standpoint, it would be surrendering something we shouldn't surrender.

Mrs. LLOYD. I'm going to continue some questions. I want to defer to my colleagues at this time.

Mr. Morrison?

Mr. MORRISON. Thank you, Madam Chairman.

First, I think your testimony, as I had hoped in my opening statement, was very supportive of what this Subcommittee is, I hope, about to do, and that is to move legislation through the process.

Secretary Moore, as we look at the overall picture on the development of the new technology, we are, of course, saddened—and I'm sure that my colleague, Mr. Stallings, is particularly saddened—at the loss of special isotope separation, SIS, as a defense process, and its potential for assisting in the development of the AVLIS technology. Does the department view that as a negative on the time table for developing AVLIS for enrichment purposes?

Mr. MOORE. No, Congressman, it did not change our time table for AVLIS. I think, in all fairness, it certainly increased the cost of AVLIS, as there was going to be a cost-sharing in there between the Defense side of our budget and the uranium enrichment side of our budget, and now the full bore of implementing and mocking up that technology and putting it into the field will be borne by the uranium enrichment side.

So it really didn't interfere with time, but it certainly does increase the cost.

Mr. MORRISON. At what point had DOE anticipated that the new corporation would take over those costs of the development of AVLIS?

Mr. MOORE. That's something that I think Smith Barney has got some good ideas on. They understand this probably better than we do about how the corporation should operate. We would like to see the corporation assume responsibility for this as soon as possible. The idea that the corporation would know best when to deploy it, how to deploy it, whether to deploy it or not, and might be able to do a better job than government in actually getting it in to deployment. And so we would encourage the corporation to assume that responsibility as quickly as they could.

Mr. MORRISON. Let me switch that over to you, Mr. Zarb. Could you give us any details on when you anticipated—I'm delighted with your zero cost carryover, the luggage you are not going to have this new corporation carry. But when did you envision that it would take over the cost of development of the AVLIS technology?

Mr. ZARB. The independent government corporation should immediately be recording the ongoing development costs as part of its own cost structure. If the objective and the national policy ultimately set by the U.S. Government is to have a viable, private sector entity that is owned by private shareholders, the decision would be made at the time of privatization as to whether to take a write-off before going into the market or not. That ultimately will be reflected in the value that the Treasury is paid for its shares in this private corporation.

So I think the costs already are written off and the government has to eat those. I think the government probably eats them right up until the time that the company goes into the marketplace to be sold. And then the sale price—the price paid to the government for this entity when and if that should occur—will reflect the extent to which you have written it off or you haven't. If you keep the debt in place to pay off old expenses that were created by the government, the new shareholders are going to value their shares accordingly.

So, if you want my opinion, my opinion is that the new entity should start to record them as their cost immediately, and we can begin to measure their ability to perform as a separate corporation. And then, at the time the Congress decides to put this in the marketplace and sell it, the determination will be made as to whether those additional costs should be written off. But the costs that have occurred in the past are gone and should be written off.

Mr. MORRISON. At the time you did this analysis, did the SIS project play any role at all in this?

Mr. ZARB. No. The answer is no.

Mr. MORRISON. I guess the bottom line of what you are saying, though, in this arena, is the sooner we can create the corporation that potentially the lower cost to taxpayer on the development of the new technology.

Mr. MOORE. We feel that way, yes. I'll tell you, Congressman, that, as you well know from your long and successful work on the full Committee, the job of government is basically basic research, and the job then when you've got the research done and turn it into application is normally best done by business and industry. That's where we are with AVLIS. The basic research has been done. This thing is ready now to be mocked up and put into a mock-up stage and then in full production. Industry is far better in that than government is.

Mr. MORRISON. The Subcommittee has viewed the technology, and we would agree. We see it in a stage that it is ready now for application, and so certainly agree with your point.

Just a comment. I couldn't help but note that there is a difference between this enrichment enterprise and the location, for instance, of a nuclear power generator. I think you probably have a number of us waiting in line that would love to have this facility in our back yards and therefore would probably try to speed up the licensing as opposed to slow it down. [Laughter.]

Mr. MOORE. As a matter of fact, at this point we have three sites where we currently have enrichment enterprises, one being dormant in the gentlelady's State, and then the other two, which are active. So far, the outpouring of the citizens in those areas have been extremely supportive, like unto almost political rallies, in trying to encourage the enterprise to stay open and operate under AVLIS in their area. I'm certain that if something happened there, that there is a place called Hanford, Washington, that would be eagerly willing to accept it if something happened and it couldn't go to one of the three sites we already operate.

Mr. MORRISON. Absolutely. I thank you.

Mr. Zarb, I noticed with some interest that, strictly from a business point of view, since the Soviets are offering SWUs at below cost of production, that maybe that whole system is going to be forced to change as they go through change. You are suggesting that we go ahead and buy up some of that low-cost energy and take advantage of it.

Mr. ZARB. I was really suggesting that as a matter of both economics and strategy. You can try to compete with them, which is mindless in the current situation; or you can try to make an arrangement with them where you do acquire some of this facility at a bargain price and, at the same time, extract their agreement with respect to inventories and production capacity. I think, given the history of those kinds of discussions with the Soviets, that that is both achievable and reliable if it gets done.

Mr. MORRISON. That's a fascinating concept. I guess if they are losing money on every sale, we should help them along the way.

Mr. ZARB. Absolutely.

Mrs. LLOYD. Jim, would you yield back?

Mr. MORRISON. I'd be glad to yield.

Mrs. LLOYD. We'd buy up the excess capacity as we would buy imported oil and save our domestic supply? Would that be the concept? As we buy up the excess capacity from the Soviets, just as much as we would buy imported oil to save domestic supplies, is that the same——

Mr. ZARB. The reason we buy so much imported oil is because over the years we have maintained public policy which has discouraged the production of competing U.S. energy. We can do the same thing here.

What we have proposed here has nothing to do with that long-term policy issue. It has to do with the near-term realities of the world. There is no other way to deal with the Soviet supply, absent some government-to-government agreement that is contingent upon things that are not relevant to the subject. But, absent that, you've got to make a deal with the people who have the glut, and one way to do that it to give them some part of the marketplace in return for their agreement to cut their production.

Mrs. LLOYD. Okay. Thank you.

Mr. MORRISON. And presuming that that might even help them in what I sense they are going to be doing, and that is to drift toward a more market-driven economy in every category.

Mr. ZARB. I would think that Mr. Gorbachev would be inclined long-term to let us be the price leader, and then ultimately price along with us.

Mr. MORRISON. Mr. Zarb, your experience in the railroad industry, did you overlay that experience over this evaluation by Smith Barney of the enrichment enterprise?

Mr. ZARB. In part, Mr. Morrison. My experience with the railroad industry was really representing the Committee headed by Chairman Dingell during the negotiations between the Department of Transportation and the private sector. We did the work in representing the Committee.

Mr. MORRISON. But with a successful enterprise resulting.

Mr. ZARB. With a successful enterprise and, frankly, many of the same considerations. On the question of unrecovered costs—we could pull out the debate on Conrail and we could probably almost use the same words. Ultimately it gets down to the question of whether you want to have a viable entity out there that is paying taxes and employing Americans in a growing, viable environment or not. The determination I think was made correctly by the Congress at that stage as to ongoing unrecovered costs.

Mr. **Morrison**. I appreciate your use of the term "pre-occupation" with the sharing of these costs has almost driven us to the point of where we are going to lose the whole thing. Maybe your railroad experience would say let's not let this new effort carry so much baggage from the past that it is not going to get anywhere.

Mr. **Zarb**. In fairness to the Congress, Mr. Morrison, it is an issue that involves every single privatization everywhere in the world. In every British privatization that has occurred in the last five years there has been an enormous debate as to how much the government should write off in terms of costs that they had put into an entity before they sold it to the public, and ultimately they wound up writing them off and selling an entity to the public that they wanted to be viable.

Mr. **Moore**. If I could inject myself for a moment into this, it really doesn't make a whole heck of a lot of difference what you say the unrecovered cost is. That's nothing more than we, as owners—the taxpayers, the government representing them—calculating what we think is the investment we have in this thing which we ultimately hope to get back, and at a profit. That's all that means. What we get back depends upon whether this thing makes a profit and pays dividends to us and whether they can ultimately be sold. If they can be sold, then what we get for it determines what the government gets back from the taxpayer, not some preconceived notion of what we ought to get back.

I hope to heck we can get back $6 billion or $7 billion of this thing somewhere down the line, or $10 billion, or $15 billion, or whatever. But what is going to determine that is the success of this as a private enterprise, not what we sit here and calculate and come up with a pencil number we ought to get for it.

We are going to get for it what the market is going to give us for it, and I guarantee you—and I think this is where Smith Barney has been of immense help to us—we are not going to get very much for it. If this thing continues as a government operation nobody is going to want to buy the thing because we are going to begin to lose such market and fall behind to where it is not going to be worth near as much.

Do we go ahead and move this thing into the private sector, and to government corporation first and ultimately then privatize it completely? And by that time we believe—and so does Smith Barney—it will be an operating, profitable business that can achieve whatever the market will bring for that business, and maybe even some profits in between to pay back the government's dividends, as has been paid in the last three years.

Mr. **Morrison**. Well, I'm glad to stimulate this sort of a reaction. I agree. I wrote down in my notes that the current enterprise is a dinosaur. It has outlived its ability to continue to exist. If we don't create something that starts with a very positive outlook, in fact, the burden to taxpayers is going to have no relief at all, including even the development of the new technology.

I have a bottom-line question, and then I'll give up my time. Would Smith Barney recommend an investment in this sort of operation if, in fact, it started with zero cost carryover and the prospect of new technology?

Mr. ZARB. We'll reserve that decision until we see what else you do to it before it is finished. [Laughter.]

Mr. MORRISON. You can tell this guy worked for Dingell somewhere along the line. [Laughter.]

Mr. ZARB. One other point, just to finish this off, which, again, is a fairly consistent part of these debates. The fact is that if you were to mandate today that these unrecovered costs must be passed on to the ultimate users of this product, and further mandated that the American utility industry must buy from UE, you would then be passing on these unrecovered costs to the electric utility users of these utilities. And, as I remember them back in my energy days, those are the same people who pay taxes. So even if you were successful in doing this, which the marketplace won't allow you to do, you are going to stick it to the taxpayer in what we think is an unfair way.

Mr. MORRISON. It just comes in a different envelope.

Mr. ZARB. Exactly.

Mr. MORRISON. Thank you, Madam Chairman.

Mrs. LLOYD. Thank you very much, Mr. Morrison.

Mr. Fawell, I believe that you were next in appearance.

Mr. FAWELL. All right. I gather that we are simply saying that the unrecovered cost should be written off, and we are saying that, because we can't possibly really determine what the environmental costs are concerned, we are kind of throwing our hands up in the air and saying we can't really take that into consideration in the total issue which I gather is before us as to whether we should restructure. And if we are going to restructure, I gather we are talking about taking the first tentative step in the form of a government corporation—I don't know where that humming is coming from—on the idea that——

Mrs. LLOYD. Would you like to use another microphone?

Mr. FAWELL. We'll give it a try. I think I agree in those conclusions, but I don't think the Taxpayers' Federation would.

The whole concept, as I understand it, is that we are going to ultimately sell this to the private market and find somebody who wants to buy this private corporation, which right now I guess we are all saying is in pretty tragic circumstances. We don't want to make the step and do it in one step. We are going to have to take it carefully and build this government entity, but in a different fashion. I'm not completely sure how that is done, but I guess it can be done so that you have more the characteristics of a private corporation rather than just a DOE-operated entity.

We shed ourselves ultimately of, as I said, the unrecovered cost and the environmental expenses which are something the government is going to have to pick up, I gather. And we are doing this, if at all, because we think it is absolutely essential for national security, number one, as being very important. And, number two, we ought not to be relying on foreign private sources or foreign sources, in general, for enrichment services.

The question I have, though, is: you mentioned also that there is a Louisiana firm, a private entity, that wants to jump into this business right now. What are the chances of their success? Evidently there is an entity out there that believes they want to get into this market, as terrible as it may appear to be. Of course, they don't have all these technical debts and problems that DOE has. But if we were to just cut our losses and get out, which has to be one alternative that we have to think about here, inasmuch as thus far we have botched it up fairly well to have these massive debts and potential environmental costs ahead of us and so forth and so on. I'd like to look at that question. What about free enterprise here in America? Are we just going to assume that there is nobody out there that wants to get into this business, too? And, if there is, aren't we going to drive them out by continuing in this business and not otherwise just cutting our losses and getting the heck out of it? Would somebody like to respond to that?

Mr. MOORE. Congressman, you have raised a number of points that I will try to address first. The Louisiana enrichment enterprise was conceived by a number of power companies who buy this, and that a foreign company, Urenco, already in the business, would own less than half of it—and so the foreign company coming in and investing 49 percent and the American owners would own 51 percent. They are doing that assuming that our enterprise stays in business. The amount of services they are going to be able to produce would not take care of the total domestic market or our business or the defense business. It will take care of a portion of that market, and not all of it.

Will there be additional enterprises like that that might spring up in the United States? I don't know. You've got to look at worldwide capacity and demand. Right now, capacity is high and demand is below capacity. So I don't know what their books are going to show, what kind of profit they are going to be able to make, or anything else. It is a private venture, and they are going into it based on the market as it exists today, and we are in that market.

Let me say to you that, on the idea of writing off these unrecovered costs, I don't know how we ever got into calling it that. I think the proper way—and this is where Frank Zarb can help me out—the proper way to view that is investment. This is what the taxpayers have put into this enterprise. What you get back doesn't appear as a debt of a corporation. Look at any balance sheet of any American company. That's not where the shareholders stake is represented. It is not represented as a debt. So this isn't the debt of the company; this is a matter of an investment that taxpayers have made in this enterprise.

The question is: how do we ever get that money back? Or are we even going to try to? Are we going to run it into the ground, where we may then ultimately end up buying the government enrichment services we need from a private sector or a foreign source? Or are we going to go in the other direction and turn this thing into a profitable—even more so than it is now—very competitive enterprise that would ultimately be sold to the public—the very people you are wondering about? Would they be interested in investing in such a thing?

We believe—and so does Smith Barney—those investors are out there. Once it is making money and it is a profitable enterprise, they'll buy. And then the only place that money goes, 100 percent of the sale price and any dividends paid between now and then goes right back to the Federal Treasury. And so you are not writing off anything, and I don't want to give you that impression.

Mr. **Fawell**. You are right. I think it is probably simply because of existing law that the Taxpayers' Federation groups can say theoretically that something is supposed to be repaid. But I would agree that if we can make this into a profitable corporate entity and ultimately sell it to the private sector, you are going to get something back. Maybe that's all we will ever get back, assuming we do everything right from here on out.

On the other hand, in the Chairwoman's question to you, you had indicated that it might cost us $120 million a year to simply do what we have to do to protect the national security and forget about this. It has been a headache and a problem, and we don't know if we are even going to be successful from this point on. It may just run up more debt and get zilch—absolutely nothing—with whatever we may have left.

Then Mr. Zarb said that isn't good reasoning either because we wouldn't want to be dependent upon foreign entities, whether foreign private entities, I'm not sure, or foreign governmental subsidized entities, I'm not sure, for these enrichment services. And so we are involved in an industrial policy kind of a question. Do we want to put, in effect, our efforts and governmental efforts and more money, for instance, into helping this particular private industry, because we all agree we are going to turn this over to private industry hopefully anyway? So we are engaged in industrial policy to a degree. We are going to be subsidizing a great deal to ultimately have an entity hopefully that will sell in the private market, and then we can say goodbye to it then. We are planning, as far as the government, to say goodbye to it no matter what happens if we are successful here.

I guess my question, then: there are a whole bunch of entities around the world who find that they are able to compete probably even without government subsidization; why can't we? Why can't we do that without all the efforts that we have been going through? I don't expect anyone to give me an answer, I just have a question.

But we really come down to the conclusion, I guess, as a Member of Congress, to say, "Well, shouldn't we just, at this point, cut our losses?" Let's say we are going to protect ourselves insofar as national security is concerned. There are changing circumstances taking place in the world. Maybe we can even—indeed, private entities being what they are in this country, can work out some joint ventures with the Soviet Union, with other foreign entities, and let's see what that great free enterprises system out there worldwide can do here. At least we know what our losses will be at this point. It has been a losing proposition for so long.

That's basically the decision we have to make, when you come right down to it. I tend to think to go with what you are talking about, but I am thinking what others may be saying.

Mr. **Moore**. We share this public policy decision—the Administration and you, as a Member of Congress—about what to do in the situation. It is not as dismal as you think. This operation has made money for the last three years. It has been paying a dividend back to the taxpayers of better than $100 million a year. So it is not a losing-money deal.

Secondly, we have assets——

Mr. FAWELL. Excuse me. That depends, of course, on how you view the unrecovered cost and the potential cleanup which is coming, and all of that, about which probably we are not doing too much right now.

Mr. MOORE. We'll talk to you about that and show you the projections on that.

We also have assets. We have the buildings, the plant, trained work force. We do have contracts in force. We do have business relationships.

I just came back from dealing with the Koreans and Japanese. They have been long-time buyers, and they value that relationship.

So we do have assets as we sit here that are worth something, and if you just close up shop, then you are, in fact, then writing off an asset; whereas, the way to achieve the return on the asset is to be able to turn it into a government corporation and eventually sell it.

Mr. FAWELL. And let's hope that that will turn out right. Thank you very much.

Mrs. LLOYD. Thank you very much, Mr. Fawell.

Mr. Wolpe?

Mr. WOLPE. Thank you very much.

We ought to continue to probe and to develop before making any rather significant decisions that are being asked of the Congress in the weeks ahead.

I want to, first of all, just get some clarity on the understanding of current law, as our witnesses understand that. Is there any question in anyone's mind that current law requires that the Federal uranium enrichment program recover all of its costs, including depreciation and return on investment, from its customers?

Mr. MOORE. That's our understanding.

Mr. WOLPE. That is your understanding?

Mr. MOORE. Yes.

Mr. WOLPE. Is there any question that we have not done so?

Mr. MOORE. As we sit here right now, no, we have not.

Mr. WOLPE. But we have heard testimony that, in fact, you have over-recovered. How do you reconcile your statement just now that there is no question that we haven't recovered with the analysis in Smith Barney which DOE now concurs in that we have over-recovered?

Mr. MOORE. No, we don't agree with Smith Barney on that. Smith Barney says we have over-recovered. Our figures are still showing a need to recover——

Mr. WOLPE. The $3 billion.

Mr. MOORE [continuing]. $3 billion.

Mr. WOLPE. Okay. So you think the only part we haven't recovered is $3 billion?

Mr. MOORE. That's right.

Mr. WOLPE. Then I'd like to pursue the question of the Department of Energy's analysis for a moment before getting back to Smith Barney analysis. Is there any question in your mind that at one point the Department of Energy in fact subscribed to the same methodology as the General Accounting Office up until at least through 1986 as to how these costs should be computed?

Mr. MOORE. I have no personal knowledge. I'm being told by staff through 1984 that was the case.

Mr. WOLPE. Fine. And, in fact, it was the case. I have in front of me a Federal Register, page 3629, volume 51, number 19, dated Wednesday, January 29th, in which, at that point, DOE says that it proposed to repay the United States Treasury, over a reasonable period of time, some $3.457 million of the—what was computed by DOE at that point $7.522 million in prior unrecovered government costs remaining as of September 30th, 1985. That $7 million figure is lower than the $10 billion figure of GAO's estimates because it does not include the imputed interest cost that had to be added on to that figure later on when the GAO did this study. But it was essentially the same number as the GAO number.

My question to you is: why did DOE change its position? Why, after years of accepting the GAO methodology as the same methodology for the Department of Energy, did DOE change its methodology and suddenly decide, "Gee whiz, we were wrong. We didn't have all that unrecovered cost after all."?

Mr. MOORE. Because we wrote off assets that were non-productive, and that took it down to the $3 billion figure. It is not so much a change in accounting as the fact that we made a business decision that GAO does not disagree with. What they have simply said is, "You should have gotten authorization from Congress before you did it." Our General Counsel's office says we didn't have to do that.

Mr. WOLPE. Right. Are you also aware that the General Accounting Office Comptroller General has written, on at least three different occasions since 1984, letters to the Congress—in particular, the Energy and Commerce Committee—indicating that, in its view, it was illegal to write off those costs in that fashion? That it simply did not correspond with the law that you acknowledged a moment ago in fact required the full recovery of such costs?

Mr. MOORE. Congressman, that occurred before I got to the Department, but the General Counsel's office informs me that they feel very certain that under section 161(b) of the Atomic Energy Act the department had that authority and properly exercised it, and no one has challenged it in court. Further, let me point out that the General Accounting Office has said in its report in 1987 that the GAO further recommends that Congress should allow the write-off of unproductive assets. There has never been a question about the real accounting whether they should be or should not be written off. There is a legal question in GAO's mind that we should have gotten permission from Congress. Our General Accounting Office said we didn't have to. The results are the same.

Mr. WOLPE. I'm just trying to establish for the—I understand that the Department of Energy has a different view. I'm trying to simply get on the record that the GAO Comptroller General has consistently maintained that it was inappropriate—and illegal, in fact—to change the assumptions of the Department of Energy in such a way as to provide that kind of write-off.xxx

Mr. MOORE. We don't agree with that. They may have said that. We don't agree with it.

Mr. **Wolpe**. No, no. I'm not asking if you agree with it. I'm just saying you are aware that that is, in fact, what the GAO comptroller general has, in fact, said.

Mr. **Moore**. I have not seen the letters. If you tell me that letters of that date say that, that's fine. But reading over——

Mr. **Wolpe**. Are you familiar with the——

Mr. **Moore** [continuing]. The report I have seen, the GAO does not agree with the fact that we have done this.

Mr. **Wolpe**. Are you familiar with a court decision that was rendered in a Colorado District Court case—Western Nuclear versus Huffman—which I'm advised did litigate this question of the legality of such a write-off?

Mr. **Moore**. No, I'm not aware of the decision.

Mr. **Wolpe**. I would be interested in if you could supply in writing your——

Mr. **Moore**. I'd be happy to.

Mr. **Wolpe** [continuing]. Interpretation of the meaning of that case as it relates to this question before us right now.

Mr. **Moore**. I'll do that.

Staff is telling me it is unrelated, but we'll have the General Counsel prepare, and I will send forward to you, our interpretation of that case.

Mr. **Wolpe**. Thank you.

[The information to be supplied follows:]

SMITH BARNEY REPORT ON URANIUM ENRICHMENT ENTERPRISE REORGANIZATION

Western Nuclear v. *Huffman* offers no guidance on the legality of enrichment asset writeoffs. The complaint, filed on December 7, 1984, did not challenge the legality of the writeoffs, and the reviewing courts did not address the issue. The only issue definitively addressed on the merits in this case concerned DOE's obligations under the Atomic Energy Act regarding enrichment of foreign origin uranium. This issue was ultimately decided in favor of the Department of Energy by the United States Supreme Court.

Mr. **Wolpe**. What, in your view, was the reason for the change in your—you said that it was a business decision—the reason for DOE's change in view as to what the real, unrecovered costs were?

Mr. **Moore**. The reason is that we wrote off—and GAO has agreed with this, and everybody else has agreed with this, including Smith Barney—that in business you write off non-productive assets. We had two assets that we wrote off—the GCEP at $2.9 billion, and excess GDP capacity at $1.2 billion.

Mr. **Wolpe**. Did the effect of this write-off essentially not transfer an obligation from the utility customers to the taxpayers? Is that not the effect of that decision?

Mr. **Moore**. The effect of the decision is the fact that you cannot ask someone to pay for something that is not productive, and so you write it off and get it off your books.

Mr. **Wolpe**. Is not the effect of that to transfer an obligation that was expected to be met by the utility customers, in fact, who had promised that they would assume such an obligation that was—the whole enterprise was predicated upon the assumption that the taxpayer would not have to assume these kinds of liabilities, that the utility industry, itself, would assume those liabilities? Is that not the case?

Mr. Moore. That's not the case in our view nor GAO's.

Mr. Wolpe. But a moment ago you said under current law, as you understand it, that there was supposed to be full recovery of such costs——

Mr. Moore. But we are allowed to write off, and GAO agrees. Had we come to Congress—and they would recommend to Congress that we would have been allowed to write that off. So what law is it that requires us to do it if we don't think it is there and GAO would agree?

Mr. Wolpe. GAO does not agree on the legality of the write-off.

Mr. Moore. GAO did agree that they would recommend to the Congress that we be allowed to write it off. If we had come forward and asked for that, they would have agreed.

Mr. Wolpe. That's a policy question. The question is current law.

Let me turn for a moment to the Smith Barney analysis, if I may.

Mr. Moore. I don't think we can do something in policy that is illegal. I don't think GAO would recommend to the Congress that we write this off. I don't think we would have written it off if it was illegal.

Mr. Wolpe. Let me turn for a moment, if I may, to the analysis. I want to just be sure that we understand how you end up with this over-recovery estimate of $1.17 billion. Could you describe that in your own words? Just in your own words, describe that as you will. And let me put it another way: what is there about the GAO analysis that led to total cost estimate of around $10 billion with which you disagree?

Mr. Zarb. We're going to have to give you a fairly detailed analysis of the calculations, which I'm sure we are able to do.

But let me say, Mr. Wolpe, that I tried to avoid our being involved in this discussion because it is, in our view, in these kinds of hearings, that an economic issue ultimately becomes a political issue. So we are going to try——

Mr. Wolpe. It becomes a political issue if games are being played. I mean, there was an understanding under current law, and GAO did its own study, and now suddenly we find these numbers being turned on their head. I guess what concerns me is what motivated the accounting kinds of gimmickry, as I see it, that led to the new analysis suggesting an over-recovery when no one has even suggested an over-recovery up to this point.

Mr. Zarb. We obviously have no past history in what has gone on between GAO and the Department of Energy and this panel and the Department of Energy. I'm going to leave that to you and the Department of Energy to settle. I'm simply going to give you the answers that we developed in response to specific questions, and the only place in the world this discussion could be taking place is in the government. If this were a private sector company to begin with, this wouldn't even be an issue. There would be a certified set of financials and we'd be able to look at them together, and there are general accounting principles that we would look at together, and we would make a calculation.

Unfortunately, in these situations in the government, you have to go back and look at decisions that were made in years gone by and prices that were charged in years gone by and calculations made. I suspect reasonable people could interpret how the books were kept in different ways.

We did not have the benefit nor the burden of the calculations made by the various entities of the United States Government in trying to prove their case. We looked at it on our own. We asked Coopers & Lybrand to do a separate, independent look at this particular issue after our report was done because it could become an issue. They used the normal methodology they would use if it were a private sector look and came back and calculated that there had been an over- recovery. We've got the numbers to show you, and I'm sure that those numbers will be agreed to by the accounting profession—maybe disagreed to by some people in the government.

There is no motive on our part here to make a point one way or the other, except to give you a professional opinion.

Mr. WOLPE. Let me maybe just run through this very quickly and see if we can track together the analysis.

If I understand the methodology used by Smith Barney and Coopers & Lybrand to get the $1.17 billion overpayment figure DOE now says it agrees with, first, according to page five of appendix six of the Smith Barney report, "After a number of adjustments Coopers & Lybrand state that the correct computation for unrecovered costs for the civilian enrichment program is about $4.5 billion." Is that correct?

Mr. MOORE. Where are you, Congressman? Page four?

Mr. WOLPE. I'm referring to page five of appendix six.

Mr. MOORE. And the number you arrived at is what?

Mr. WOLPE. It is $4.5 billion for unrecovered costs for the civilian enrichment program. That's the number they come up with.

Mr. TIMBERS. Congressman, the $4.5 billion of unrecovered cost is the number that reflects the first two of our three categories. If you recall, in our report, as laid out on page 62 of the section on unrecovered costs, there are three categories. We have oversights and errors, we have judgments, and we have policy costs. As identified in there, the 4.5 number is our calculation of unrecovered costs prior to making any kind of judgment as to how to allocate our policy cost identifications. Those policy costs are the GCEP write off, the excess capacity, and TVA demand charges.

Now, our perspective on this was clearly—and this is why we did not put it into our report—that the issues regarding the policy cost determinations are decisions to be made at the table here in the responsibility of Congress. There are disputes between the DOE between GAO. These disputes have not been resolved. But we wanted to focus clearly that the $4.5 billion number was one that we represent from an accounting standpoint was clearly—this was the starting place before you determined what the unrecovered costs are in regard to policy allocations.

Mr. WOLPE. But you indicated that even that $4.5 billion involved a number of judgment calls; is that correct?

Mr. TIMBERS. The second category are judgments, and they are judgments that Coopers & Lybrand made and, in reliance on that report—and we concur with their report—were appropriate judgments to be made.

Mr. **Wolpe**. Could you give us an example of some of those judgments?

Mr. **Timbers**. Yes. Selection of the appropriate annual interest rate for calculations on imputed interest. The GAO used the average U.S. rate. We felt that it was more appropriate to use the long-term rate for the plant and the short-term rate for working capital, more in line with commercial——

Mr. **Wolpe**. Could I, just to clarify that point—what best reflects the cost of borrowed capital in the United States? The long-term bond rate, or the weighted average interest rate?

Mr. **Timbers**. It depends on where you are on the yield curve. If you are borrowing from a long-term perspective for a plant that has a 30-year life to it, the long-term rate is appropriate. However, if you are using monies borrowed from the Treasury or FFP for working capital, a short-term rate is much more appropriate. And FFP does borrow along a yield curve from short to long. We felt that splitting the rate like that was more appropriate and reflected reality better than an average rate.

Mr. **Wolpe**. Continue on the other judgments.

Mr. **Timbers**. The non-cash transfers of uranium inventory and fixed assets from the government to the UEE. This was an area where GAO felt—well, they excluded it from unrecovered costs except for imputed interest. This is an area where the Coopers & Lybrand and the project team—this inventory was excluded for fixed assets, but fixed assets were included.

Now, it is a matter of—if you want to get down to the specifics, I think that we were asked to go back to Coopers & Lybrand and give a detailed analysis of that.

Mr. **Wolpe**. The point I'm trying to establish just for the record at the moment is that these are a matter of judgment calls that one could—is there any—you are acknowledging, I take it, that other accountants could, in fact, come up with the GAO conclusion rather than your own in that respect?

Mr. **Timbers**. By definition, judgments are based upon those accounting principles deemed to be appropriate by Coopers & Lybrand in this case.

Mr. **Wolpe**. Similarly, the determination the DOE customer should pay only half the cost of DOE investments for civilian purposes also involves a judgment call; is that correct?

Mr. **Timbers**. Could you repeat that, Congressman?

Mr. **Wolpe**. The determination which is spelled out by Coopers & Lybrand of their assumption that DOE customers should pay only half the cost of DOE investments for civilian purposes is a judgment call also, right?

Mr. **Timbers**. The whole issue in terms of how you allocate between commercial and military purposes is still one that has yet to be determined. Simply because these plants were built for military purposes and commercial use did not begin until in the late 1950s and 1960s, these costs, how they are allocated, has yet still to be made in terms of policy decision by accountants or even by the Congress, as well.

Mr. **Zarb**. Mr. Wolpe, can I just make a point——

Mr. **Wolpe**. Certainly, Mr. Zarb.

Mr. **Zarb** [continuing]. On this whole analysis? When we did the Conrail analysis, as I recall, there was some $13 to $15 to $18 billion of government investment that had to be debated as to whether it should be passed along and repaid to the government. Of course, in the final analysis, the market was the market, and whatever we could sell Conrail for we could sell it for. As you recall, we did it at a public offering and the marketplace established its true value and the government got paid a certain amount.

Now, the point is that if we had calculated the so-called unrecovered cost—which in government bookkeeping is a misnomer, because there is no unrecovered cost. It gets written off every year. You don't have a balance sheet in the government, and things are not calculated in that way. But the fact is, if we had come to a calculation that there were $15 billion in unrecovered costs as so defined for this discussion, we would not have changed our recommendation one little bit, so our final conclusions would have been the same.

Mr. **Wolpe**. If you are saying, Mr. Zarb, that there is no way this enterprise that we are talking about creating can be viable without these kinds of write-offs and the subsidy, and so on, that is being extended by the taxpayer, you may be right. But then that's something that we ought to be very clear about. We ought to have a very clear understanding of the extent of the taxpayer subsidy that is being required here, because it may be that it may be worth paying that kind of subsidy for this kind of enterprise, as Mr. Fawell was suggesting in his questioning a moment ago.

So to suggest that somehow that is kind of irrelevant or—I think your word was a "distraction,"—that wasn't your language, that was the language of the report, though, that was before us. Maybe it was your language in your testimony—is really a rather extraordinary kind of remark. It is central to the question. How much are taxpayers being asked to assume here for a liability that, at the time the Atomic Energy Act was written, we assumed would be assumed fully by the utility industry? That's the question. And to pretend that somehow it is a distraction is really, I think, to beg the real question here.

But let me just finally turn to one last issue for now. I hope—Madam Chairman, I know my time has probably long ago expired, and I appreciate your forbearance. I would have a series of more-detailed questions that I hope we might ask our witnesses to testify in writing to.

But I would like to just ask one question as regards to the AVLIS technology and project. For both the Department of Energy and—how much risk should be borne by the American taxpayer as it relates to putting AVLIS on line?

Mr. **Moore**. As far as we are concerned, once we create the government corporation we want to see it take on all of the risk from that point forward in developing AVLIS.

Mr. **Wolpe**. So the taxpayer would assume the full risk then? That's what you are saying?

Mr. **Moore**. The government corporation would, which is owned by the taxpayers. But if we maintain it like it is, the taxpayers will bear the full risk if we don't put it in a government corporation. If you are going to bring AVLIS on screen, it is going to be paid for by either tax dollars, or, if it goes to the government corporation, it would be paid for by the revenues that it gets from selling its services.

Mr. **Wolpe**. So how much—are you saying, though, that you are not prepared to stipulate as to any limitation on risk that you think the taxpayer should be willing to assume for a project that will be obviously designed to benefit the commercial nuclear industry?

Mr. **Moore**. I don't believe, and would optimistically think, there would not be any risk.

Mr. **Wolpe**. That was my question. I'm not asking for a projection of what the risk will be. I am saying: is there any limitation on the risk that you would impose so the taxpayers know in advance that they will not have to assume more than a fixed risk?

Mr. **Moore**. I'm afraid that's a question we'll try to give you an answer for. I've never been asked that question and haven't thought of it in those terms. Are you thinking in terms of a legislative cap or something that no more than X dollars can be paid by the Treasury to develop AVLIS? Is that where you are coming from?

Mr. **Wolpe**. The question here is: is this something that we ought to be asking the industry, itself, to bear the full risk for development of this thing if it is going to be something that is going to be economically viable? We are being told that, if I understand the testimony today, the supply of material is in excess——

Mr. **Moore**. Yes.

Mr. **Wolpe** [continuing]. That others may be, in fact, engaging in the unfair trade practices, essentially. One of the questions I would be intrigued about is why DOE doesn't think about entering a trade action if we feel that——

Mr. **Moore**. We have.

Mr. **Wolpe**. A formal trade action has been——

Mr. **Moore**. Yes.

Mr. **Wolpe** [continuing]. Initiated?

Mr. **Moore**. We have done our studies——

Mr. **Wolpe**. But if, in fact, this is an excess supply, and if, in fact, the consultants here are telling us that they doubt the commercial viability of this enterprise until well after the year 2000 into the future, why we should even be pursuing this vigorously without some real guarantees that the taxpayer is not going to be asked to assume the downside risks involved here.

Mr. **Moore**. The way this is supposed to work—in trying to answer your question—is the minute the corporation is created the entire AVLIS program then shifts to them for the application and ultimately deployment of that technology if the corporation determines it is economically viable to do so. They get their money back. They are going to pay for part of that cost from the dividends or the retained earnings which they are now earning. They will pay for part of it with that. They may go in the marketplace and borrow the additional money, not with a government bond, but go into the marketplace and borrow the money, all of which will be paid for and paid back by the enrichment services sold to the public.

So I don't see what the risk is to the taxpayer unless the operation fails——

Mr. Wolpe. That's the risk.

Mr. Moore [continuing]. And loses more money. That's that case where it is now. There is no difference.

Mr. Wolpe. No. But now we are talking about engaging in a new project, a new enterprise, building a new technology and——

Mr. Moore. Yes, we are. That's the source of all future——

Mr. Wolpe [continuing]. New enrichment facility.

Mr. Moore [continuing]. Operations in any business. If we stay still, you are guaranteed to fail.

Mr. Wolpe. That's right. But the question is whether we cut our losses now. I'm trying to understand. You want to build this new enterprise?

Mr. Moore. Yes.

Mr. Wolpe. And you——

Mr. Moore. Do you want to know what we think that will cost?

Mr. Wolpe. Are you saying there is no risk involved in the building of that new enterprise?

Mr. Moore. There is risk involved. There is in any enterprise.

Mr. Wolpe. Fine.

Mr. Moore. If you want to know what——

Mr. Wolpe. How will that risk be allocated as between the taxpayer and the industry?

Mr. Moore. It will be paid for 100 percent by the industry if it is a viable enterprise.

Mr. Wolpe. In other words, the industry, if it is profitable and succeeds, the industry will gain the full advantage and it will pay the full cost?

Mr. Moore. Yes.

Mr. Wolpe. But if it fails, then who bears the cost and risk?

Mr. Moore. Who owns it?

Mr. Wolpe. What?

Mr. Moore. Who owns it? If it fails, who owns it? The taxpayers, just as right now. They own it as a government entity. If it fails, the same thing.

Mr. Wolpe. So the answer to the question I put to you originally is that, indeed, the taxpayer is being asked to bear the full burden——

Mr. Moore. No.

Mr. Wolpe [continuing]. Of the downside——

Mr. Moore. That's your interpretation of the answer. It's not mine. Our projection is they won't pay anything.

Mr. Wolpe. I'm not asking for projections. I'm asking for the actual assumption of the risk if this thing fails. Who bears that cost under what is being proposed?

Mr. Moore. If the thing fails, we sell off whatever assets we can sell, then what is left would then be the measure of did the taxpayers make a profit or not on this venture.

Mr. Wolpe. So it is the taxpayer then—I know you——

Mr. Moore. The taxpayers own it.

Mr. Wolpe [continuing]. Won't need to use the words, and I'm not trying to put words in your mouth, but I think it is pretty clear you are ducking the question.

Mr. **Moore**. No, I'm not. I'm trying to answer it. The taxpayers own it either as a government corporation or——

Mr. **Wolpe**. So the taxpayer is going to bear the risk if it fails; is that correct?

Mr. **Moore**. Yes. If it——

Mr. **Wolpe**. Thank you very much.

Mr. **Moore** [continuing]. Ultimately fails. No. That wasn't your first question. Your first question was who bears the risk of this. The risk is—we don't think there is a risk that is that great.

Mr. **Wolpe**. I appreciate that, and you may be right.

Mr. **Moore**. If it fails——

Mr. **Wolpe**. I'm just trying to understand——

Mr. **Moore**. If it fails, and——

Mr. **Wolpe** [continuing]. So we all understand.

Mr. **Moore** [continuing]. If the corporation is not worth anything, it has lost everything, then the money that would have been put in the AVLIS technology or any debts this company would have run up the taxpayers would have. Yes.

Mr. **Wolpe**. My purpose here was not to engage in a debate over projections about risk of failure, but just to try to understand what happens if it fails, who bears the risk under the proposal that is before us.

Thank you very much.

Mrs. **Lloyd**. Thank you very much, Mr. Wolpe.

I think where we are is that we are working for a value-maximizing strategy to get the highest return to the Treasury for what we have right now. We are also trying to make sure that the national security considerations, national energy security considerations, that we develop a domestic supply of enriched uranium to take care of our country. And, in doing so, the report, as well as the intention of the legislation that I have authored, would be the best way that we feel to reach that goal.

At this point, if we do not proceed in this direction, what is the future of this enterprise without restructuring? What is the future of the uranium enrichment enterprise at this point if we do not restructure? Anyone that wants to answer that can.

Mr. **Zarb**. Well, I—it is clear to us that the way to continue to screw the U.S. taxpayer is to continue to do what you are doing, and that's to lead us down a dead-end street and pouring a lot of good money after bad. And one way to get the taxpayer whole again is to clean up this enterprise, get back into the marketplace, sell it out at a fair value, put it in the private sector, and make it a taxpaying entity.

Short of that, sure you could get out of the business, but then the argument is going to be how much are you selling out for and why you are selling so cheap. Why don't you clean it up and sell it for a higher value? So, from a business standpoint, not from a political standpoint, our view is that the best return for the American taxpayer is to clean up this entity, make it viable, get it into the marketplace, sell it at a fair value—and that's done a number of different ways where the government not only gets a fair value front end, but also has warrants on the upside and the American taxpayer then gets paid back for all that they have put into it.

Mrs. Lloyd. Okay. Well, let's look at the new corporation then. Discuss some of the business practices that could be changed to make a difference if something has been not too successful—it has been successful, to a degree, but not as successful as we would like it to be—so that we can remain a viable competitor. What would we do that would be different? What are we going to do with the new corporation that is going to be different so that we won't be making those mistakes, for the record?

Mr. Moore. Madam Chairwoman, let me first address what may be behind Congressman Wolpe's questions, for whom I have great respect and had the privilege of knowing him before I got into this job. If we are trying to—maybe Congressman Fawell is coming from the same situation—trying to measure where we are today, is it better just to cut our losses and get out and just be done with it, or to invest more money and ultimately get a return on the money we have invested—100 percent return or 50 percent return or whatever it comes out to be.

We have crossed that Rubicon in the Administration, and I think that Smith Barney has, as well. There is no question what you do from here. We are looking at the cost of AVLIS from this point forward to apply it and deploy it, it being roughly $1 billion. And so that is the risk of the enterprise, $1 billion. The enterprise now is making money. So there is no risk now if it continues its operations as it has been. It has been making money, paying that money back into the Treasury to reduce, as you see down here on the charts, the amount of unreimbursed cost. It is paying that back in now.

If we move ahead with the enterprise, we believe that the operation will stay in the black into about the 2000 time frame, which is when AVLIS comes on. And so in our mind it is a situation where it will stay in the black, it will pay for AVLIS, AVLIS comes on the screen, we are the cheapest producer in the world, it then begins to really make a profit, and then you sell it, and you make it at a real profit then and you get reimbursed back to the government the cost that we are debating.

If you decide we are just going to forget it, we are just going to cut our losses and hang it up and be done with it, then I think the Congress needs to decide and needs to direct the Department of Energy to cease these operations. We do not see this being able to continue to operate without costing the taxpayers money past the year 2000. If we lost the rest of those fixed-cost contracts, we are in the red then—we are telling you that now—we are in the red then. Then you are costing the taxpayer every day it operates, which you are not doing now. The taxpayer hasn't been paid back yet, but it is not costing the taxpayer any more. In the year 2000 it will. It will begin to cost them more, adding up to the money they have already put in; hence the comment by Mr. Zarb putting more good money after bad.

So if we don't deploy AVLIS, we ought not be in this business. We ought to get out of this business and just can it and go to the Congress and say, "Give us the authority to sell our plants." I don't know what we would do for defense. We'd have to maintain at least one of them. And we can tell you right now that will cost about $300 million a year net loss to the Treasury to be able to operate to make enough enrichment uranium to take care of our military needs. I don't think anybody would think we ought to be buying that from the Soviets or from overseas. The capacity of the new plant being planned in Louisiana does not have any intentions of trying to supply our military market.

It is just that simple. You've got a choice of either proceeding down a line of trying to maximize the investment to the taxpayers and make this a profitable entity and ultimately selling it and privatizing it, which we did with Conrail, as we should do with any government business, in my viewpoint, which this is. Or we then look at this thing going into a cost and a red situation by the year 2000 and let's just make plans to get out of it and tell the taxpayers: "Forget the money you put in, you're never getting that back. That's gone." You can't sell anything for anything in a declining business. Just forget that and be prepared to foot the bill from now on at $300 million a year for defense purposes that you are not spending now. That is basically the bottom line of the choice I think that we are facing.

In answer to your last question, what do we do differently, I think I tried to touch on that earlier. You allow this operation not to have to come to Congress with debates on whether you write off an asset, come to Congress to ask for a supplemental appropriation to be able to buy something in the market that is a good buy right now, not have to come to Congress for a reprogramming request to move from one account to another, have the flexibility to move very quickly in the marketplace to be able to romance the customers and keep them going. We are in government. We are limited. We don't have an entertainment budget. I can't go around the world seeing every utility company president in the country and trying to get them to buy uranium enrichment services, but a business should be doing that.

So there are a number of things that business would do differently. We would also bring into it people whose full-time job is to run that enterprise, being paid a salary commensurate with the business world. Right now we don't have that. We have a contractor working for us, and we are trying to oversee the contractor. It has worked well with Martin Marietta, but not as well, in anybody's estimation, as a true government corporation—eventually a private company—running that business.

So that's what we see being done differently. Mr. Zarb is a businessman, maybe he can add to that.

Mrs. LLOYD. Mr. Zarb, Mr. Timbers, are there any remarks you would like to make as we wind things up here?

Mr. ZARB. I think that question was adequately answered. As a private corporation in the marketplace, you are subject to the normal pressures and disciplines of the marketplace. That would have encouraged, I think—if this were a private company today and a freely-traded company, it would have been already depreciated in value because the marketplace will have seen that by the year 2000 adequate plans had not been made to be really competitive, and that the profitability would surely decline.

So, as a private company, those anticipations are made very early in the process, and this company would have reacted to the realities of the market had it been a private company. That's what you get when you make it a private company.

Mrs. LLOYD. Do you see an urgency, then, for restructuring?

Mr. ZARB. Yes.

Mrs. LLOYD. Mr. Timbers, do you have any remarks?

Mr. TIMBERS. Mrs. Lloyd, I would concur with that. We identified that there is a very changing market in the uranium enrichment industry, and that is that it is going to a short-term spot marketplace. The contracts that the Department of Energy have now are being terminated. That termination begins to be realized in the post-1995 period. The issue here is who is terminating these contracts. These are U.S. utilities—utilities here in the United States. Of the uncommitted demand expected in the post-1995 period, 70 percent of that demand is in the United States.

So where are the competitors going to fight the battle? as I have said before, the battle is going to be fought here in the United States over the U.S. utilities.

From that standpoint, is there an urgency to move forward? We believe very strongly that this enterprise could be much more effective in its business operations if it is restructured. In order to achieve those restructuring goals and operating efficiencies and financial flexibilities, one has to plan now for this post-1995 period.

Mr. MOORE. Madam Chairwoman, I would agree very strongly that we are already seeing that as I have made calls last week to the Government of Japan and the Government of Korea three weeks ago—big customers of ours. They are watching very carefully what we are going to do as we have our contracts with them coming up for expiration—they are big contracts. When they do, if they see that we have sent a signal that we are going to move into a very competitive mode of government corporation, I think we continue to do business with them.

If they get the signal that we are going to run this thing into the ground, that's the signal that tells us we are not willing to play in the game, we are going to get out of the battle, and that's that. We'll lose those markets. And then pretty soon you've got a—there is no point in operating a business in the red, but at the point we go to the red, then we just cancel domestic enrichment. It throws our domestic utility industry into a tizzy as they go into the world market trying to find contracts—and they will. And so then we just do business for the government and for the Defense Department, and when we do, as I said before, our estimate now is it will cost the taxpayers $300 million a year they are not paying now.

Mrs. LLOYD. Mr. Morrison, do you have any——

Mr. MORRISON. Just a closing thought. To back up, I think, the reasoning that has been shared with us from our witnesses in these last few minutes, we have had here, Madam Chairman, if you will recall, a number of representatives from the power industry. We have put the question to them about enrichment and where do they intend to buy their fuels in future years. They have gone, as I recall through the 1980s, from being enthusiastic about the flexibility we tried to provide the enterprise and dramatic improvement in their SWU price and their ability to look forward and so forth. Now, in the last couple of years, a high level of apprehension about U.S.—well, I shouldn't use the word "apprehension," because they have become less apprehensive about the availability of product. What they have become is apprehensive about the future of the U.S. enrichment enterprise.

So I think we obviously are in that business. We got in it for defense purposes. It has spread to the commercial arena. We are making money now. We could be very pleased with that. I just wanted to make sure the record reflects why we are here this morning.

We asked, the department asked—took a chance—asked private enterprise, on an independent basis, to make an analysis. Smith Barney is highly respected, I think, here on the Hill and across the United States. Guess what they came up with? They came up with a path that this Committee already has in front of it in the form of legislation that you have introduced. As that famous philosopher Yogi Berra once said, "When you come to a fork in the road, take it." It is time. [Laughter.]

Mrs. **Lloyd**. Thank you very much, Mr. Morrison.

Any additional comments?

Mr. **Fawell**. Madam Chairman?

Mrs. **Lloyd**. Yes?

Mr. **Fawell**. I just would like to make one comment. It betrays my ignorance on the subject, and I admit that. But it seems to me that what we are saying is that we have a business operation right now which is in fairly bad shape. We have environmental problems that we don't even have good estimates as to what it is going to cost. We've got something that just wouldn't sell in the market in any way. We all agree on that.

What we are planning on doing is to put, with a fair degree of risk, I assume, which includes building AVLIS—I heard the figure $1 billion. I'm not sure if that is right. A lot of risk. And then, perhaps, if AVLIS succeeds, and so forth, we are going to start making good money with this corporation. And then, but only then, we are going to be able to sell it out there in the market. Well, of course. We'll probably have many, many people who will want to buy it then.

But I guess what a lot of people are concerned about is that that risk is only shared by the taxpayer. That can be called subsidization ultimately for what is pure industrial policy for a given industry.

When you really succeed to 100 percent of your expectations, you will have a buyer. Of course you'll have a buyer, but you don't have one now. They won't have to put one red cent in as a matching grant or anything else. It is only a win/win proposition for them.

And so I think that—and I am just approaching this purely from an objective fashion. That's what concerns me. So anything that any of you folks could do in sending information to me to educate me on this fear and concern I would appreciate, because I am in a quandary there. It does seem to me that we have lost a lot already which are unrecoverable, and we are obviously—as you say, never bet the business, but we are betting the business. No one else would do it except government, because you would never pick up money from any other source than the taxpayer to do something like this.

It is a risky operation. We've got the S&L and all the problems. We bet the business there and, my god, it is tragic. So in that light, I've got a lot of concern. I've got deep concern. It is probably, to a great degree, based upon my lack of comprehension of all that is occurring here, because this is not a subject I have followed in depth.

Thank you.

Mr. ZARB. Congressman, when the final decision was made to privatize Conrail, there was a long discussion as to national transportation policy—what would happen with respect to the growth of the trucking industry, where the economy was headed—and a great deal of uncertainty as to the future of that particular railroad, and a great deal of fear as to whether it would survive, because there were members who said if it fails we are going to get it back. The fact is that those fears were there. There were real risks. The asset was put in the marketplace. The marketplace valued it. It got sold. And the disciplines of the marketplace came to play on the day-to-day decision-making of the management. The management was changed. The board was changed. And it became a viable entity paying taxes to the U.S. Treasury.

If that is the purpose of the government and the Congress—to get this thing back to a point where it truly will pay the American taxpayer back not only for the past, but also in the future—then we think the path that has been outlined here today is the most reasonable.

Mrs. LLOYD. I want to thank you distinguished gentlemen for being our panelists, for providing us with excellent testimony and background that certainly we need to examine as we move forward in this legislation. And I want to thank all of the members of the committee for their contributions to the hearings this morning. Certainly this is one of the most significant issues before the United States Congress this year—not only the implications in reference to our national security, but I think that history will tell us if we are going to have a vibrant economy then certainly we have to dictate the price of our domestic energy.

So, if there are no further comments, the subcommittee stands adjourned.

[Whereupon, at 11:35 a.m., the Subcommittee was recessed, to reconvene at the call of the Chair.]

APPENDIX I

THE HONORABLE TERRY L. BRUCE
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
JULY 11, 1990

MADAM CHAIRMAN, THANK YOU FOR HOLDING THIS IMPORTANT HEARING TODAY TO REVIEW THE SMITH BARNEY REPORT ON THE DEPARTMENT OF ENERGY'S URANIUM ENRICHMENT ENTERPRISE. I WOULD LIKE TO COMMEND YOU FOR YOUR DEDICATED WORK ON THIS ISSUE AND FOR YOUR WELL-CRAFTED LEGISLATION TO REORGANIZE THE URANIUM ENRICHMENT OPERATIONS. ADDITIONALLY, I WOULD LIKE TO WELCOME OUR DISTINGUISHED WITNESSES FROM THE DEPARTMENT OF ENERGY AND SMITH BARNEY, AND I LOOK FORWARD TO HEARING THEIR TESTIMONIES.

OVER THE PAST SEVERAL YEARS, THE U.S. URANIUM ENTERPRISE ("UEE") HAS BEEN FACED WITH MANY CHALLENGES, ESPECIALLY FROM THE GLOBAL MARKETPLACE. OUR MARKET SHARE IN THIS INDUSTRY HAS DECREASED SIGNIFICANTLY WHILE FOREIGN SUPPLIERS CONTINUE TO DEVELOP LOW-COST INVENTORIES. I BELIEVE IT IS IMPORTANT TO REVIEW THE LEGISLATIVE PROPOSALS WHICH HAVE BEEN PUT FORWARD TO ADDRESS THE CHALLENGES FACING OUR DOMESTIC URANIUM ENRICHMENT INDUSTRY, AND TO FORMULATE A STRATEGY WHICH WILL HELP MAXIMIZE THE USE OF OUR URANIUM RESOURCES.

I AM INCLINED TO AGREE WITH THE CONCLUSION OF THE SMITH BARNEY REPORT WHICH SAYS THAT THE BEST WAY TO MAXIMIZE THE VALUE OF OUR ENRICHMENT OPERATIONS IS TO ESTABLISH AN ENTERPRISE IN THE PRIVATE SECTOR. A PRIVATE ENTITY WILL CERTAINLY BE MORE COMPETITIVE IN THE INTERNATIONAL MARKETPLACE. HOWEVER, WITHOUT BEING CERTAIN OF VARIABLES SUCH AS THE REGULATORY REQUIREMENTS AND WITHOUT HAVING THE LUXURY OF BEING ABLE TO ANALYZE A PAST HISTORY OR TRACK RECORD OF COMMERCIAL ENRICHMENT OPERATIONS, A MORE GRADUAL TRANSITION TOWARD PRIVATIZATION MAY BE IN OUR BEST INTEREST.

AGAIN, I ANXIOUSLY AWAIT THE TESTIMONY OF OUR WITNESSES AND I AM CONFIDENT IN THE ABILITY OF THIS SUBCOMMITTEE TO PLAY A STRONG LEADERSHIP ROLE IN MEETING THE CHALLENGES WHICH FACE OUR URANIUM ENRICHMENT INDUSTRY.

OPENING STATEMENT
BY U.S. REP. JERRY F. COSTELLO, ILLINOIS
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
JULY 11, 1990

"HEARING ON SMITH BARNEY REPORT"

Madame Chairman, the focus of the hearing will be the Independent Financial Assessment of the Department of Energy's Uranium Enrichment Enterprise (UEE) prepared by Smith Barney, Harris Upham & Co. I welcome Secretary Watkins and Mr. Zarb and I look forward to hearing their testimony.

The Smith Barney report is a complex, detailed report that answers and addresses several questions. I look forward to discussing the issue with DOE and Smith Barney.

Madame Chairman, I thank you for calling this hearing and I anticipate some interesting and relevant commentary by our distinguished witnesses.

APPENDIX II

ROBERT A. ROE, New Jersey, CHAIRMAN

GEORGE E. BROWN, Jr., California
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MARILYN LLOYD, Tennessee
DOUG WALGREN, Pennsylvania
DAN GLICKMAN, Kansas
HAROLD L. VOLKMER, Missouri
HOWARD WOLPE, Michigan
BILL NELSON, Florida
RALPH M. HALL, Texas
DAVE McCURDY, Oklahoma
NORMAN Y. MINETA, California
TIM VALENTINE, North Carolina
ROBERT G. TORRICELLI, New Jersey
RICK BOUCHER, Virginia
TERRY L. BRUCE, Illinois
RICHARD H. STALLINGS, Idaho
JAMES A. TRAFICANT, Jr., Ohio
LEE H. HAMILTON, Indiana
HENRY J. NOWAK, New York
CARL C. PERKINS, Kentucky
TOM McMILLEN, Maryland
DAVID E. PRICE, North Carolina
DAVID R. NAGLE, Iowa
JIMMY HAYES, Louisiana
DAVID E. SKAGGS, Colorado
JERRY F. COSTELLO, Illinois
HARRY JOHNSTON, Florida
JOHN TANNER, Tennessee
GLEN BROWDER, Alabama

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STEVEN H. SCHIFF, New Mexico
TOM CAMPBELL, California
JOHN J. RHODES, III, Arizona

ROBERT C. KETCHAM
Chief of Staff
JOHN D. DOYLE, Jr.
Chief Counsel
DAVID D. CLEMENT
Republican Chief of Staff

July 18, 1990

The Honorable W. Henson Moore
Deputy Secretary of Energy
U.S. Department of Energy
Washington, D.C. 20585

Dear Mr. Moore:

Thank you for your excellent testimony at our Subcommittee hearing on the Independent Financial Assessment of the United States Uranium Enrichment Enterprise prepared by Smith Barney, Harris Upham & Company, Inc. on July 11, 1990.

We would like to supplement the record of the hearing with your responses to the attached questions. We would appreciate receiving your responses within three weeks from the date of this letter. Please forward this information to the Subcommittee office, B-374 Rayburn House Office Building, Washington, D.C. 20515, to the attention of Kathryn Holmes. A copy of the hearing volume will be forwarded to you as it becomes available.

With best regards,

Sincerely,

Marilyn Lloyd

MARILYN LLOYD, Chairman
Subcommittee on Energy
Research and Development

ML:cf
Enclosure

Attachment: Questions
The Honorable W. Henson Moore
Deputy Secretary of Energy
U.S. Department of Energy

- Research and development in industry tend to be profit oriented, while R&D in government usually takes on higher risk and higher cost projects. In your view, what would the corporation's philosophy be?
- Can you give us your opinion of the future of the enterprise without restructuring? What will that mean to national security and defense needs? Is there a sense of urgency for forming the corporation? And if so, Why?
- What is DOE doing to prepare for the transition to a government corporation? Aren't there some steps that can be taken now?
- Is it necessary to license existing facilities by the Nuclear Regulatory Commission? If so, how do we deal with possible interruption of supply because of uncertainties in licensing?
- How much money has been taken from the enrichment enterprise to fund other activities of the Department of Energy over the past 10 years? Since the enterprise is charged with recovering all costs of operations, does this mean that the utility industry is, in fact, subsidizing government operations?
- Will the proposed AVLIS facility for commercial customers be able to produce highly enriched uranium for the defense departments? What is the limit on the grade of enrichment for the projected facility?
- What percentage of capacity is being used at Paducah and Portsmouth?
- What is the projected effect on DOE's uranium enrichment sales, prices, and ability to recover costs if the Louisiana uranium enrichment plant proposed by URENCO and its business partners come on line?
- How does DOE propose to assure that all costs associated with the AVLIS plant, whether it is ultimately operated or not, are recovered from the nuclear utility industry rather than from taxpayers?
- What is the current operating cost per SWU at Paducah and Portsmouth?
- Does DOE intend to undertake the D&D study suggested by Smith Barney?
- While I appreciate your comments that enrichment facilities pose

significantly less risk to the environment and the public, the reality is that under current NRC rules and regulations, enrichment facilities must go through the same process as power reactors under 10 CFR Part 50. Would you care to comment on that? Was that taken into account in your licensing schedule?

- Has DOE requested the NRC personnel and resources for either FY 90 or 91 to begin work on the AVLIS licensing issues? Isn't it true that the NRC will have to include that project in its budget request for FY 91 which is currently being considered in the House?

- We have received information that indicates that the deployment plan made public early this year is already slightly behind schedule. Staff has provided you with copies of timetables from the plan. Would you comment on those activities which according to the tables should have been completed to date?

- You said that the Department has begun to implement some of the recommendations in the report such as a more rational management structure and cost cutting measures. Could you tell us more specifically about these changes?

Department of Energy
Washington, DC 20585

September 24, 1990

The Honorable Marilyn Lloyd
Chairman
Subcommittee on Energy Research
and Development
Committee on Science, Space and Technology
U.S. House of Representatives
Washington, D.C. 20515

Dear Madam Chairman:

On July 11, 1990, W. Henson Moore, Deputy Secretary, gave testimony before your subcommittee on the Independent Financial Assessment of the U.S. Uranium Enrichment Enterprise.

Following that hearing, you submitted written questions for our response to supplement the record. Answers to those questions are enclosed. However, answers to questions 2, 3, 8, and 9 are still in preparation and will be forthcoming.

If you have any questions, please have your staff call Barbara Campbell on 586-8238. She will be happy to assist you.

Sincerely,

Jacqueline Knox Brown
Assistant Secretary
Congressional and Intergovernmental Affairs

Enclosures

QUESTIONS FROM CHAIRMAN LLOYD

Uranium Enrichment Corporation

Question 1: Research and development in industry tend to be profit oriented, while R&D in government usually takes on higher risk and higher cost projects. In your view, what would the corporation's philosophy be?

Answer: The corporation would focus on the market potential and value of its R&D efforts, and would balance any risk against the potential commercial value. It would seek to expedite the transition of promising R&D to the marketplace. A corporation could ensure that industrial integration is introduced into the early stages of any R&D program.

QUESTIONS FROM CHAIRMAN LLOYD

Licensing

Question 4: Is it necessary to license existing facilities by the Nuclear Regulatory Commission? If so, how do we deal with possible interruption of supply because of uncertainties in licensing?

Answer: Currently, the Department's existing enrichment plants are exempt from licensing by the Nuclear Regulatory Commission (NRC). The safe and environmentally sound operation of these plants is closely monitored and maintained by the Department. On this basis, the existing plants have demonstrated an excellent safety and operating track record for 40 years and the necessary measures are being applied by the Department to assure that this continues in the future.

We believe that licensing of the existing facilities by NRC would be necessary if the enrichment facilities were transferred to the private sector by the sale of stock or if required by legislation. The Atomic Energy Act of 1954, as amended, would prohibit a private entity from operating the gaseous diffusion plants without a license. Proposed legislation in both the Senate and the House of Representatives to create a Government corporation for uranium enrichment could eventually lead to the transfer of these facilities to the private sector. Therefore, both the Administration's proposed bill (H.R. 2480) and the Senate's bill (S.83) outline steps for the potential future licensing

Answer 4 (continued): of the existing enrichment facilities by NRC. As specified in both these bills, the licensing exemption for the existing facilities would be continued until the necessary NRC regulatory framework and procedures have been developed to assure that licensing for the existing enrichment plants can be processed without complication. Under each bill, the Department would retain Environment, Safety & Health oversight while NRC develops the regulatory framework and procedures. The bills require any new plants to be licensed. We believe that this is a responsible and effective approach to prevent an unwarranted supply interruption.

QUESTIONS FROM CHAIRMAN LLOYD

Unrecovered Costs

Question 5:	How much money has been taken from the enrichment enterprise to fund other activities of the Department of Energy over the past 10 years? Since the enterprise is charged with recovering all costs of operations, does this mean that the utility industry is, in fact, subsidizing government operations?
Answer:	Over the past 10 years, approximately $1.3 billion in unobligated appropriations has been transferred from the Uranium Enrichment enterprise to fund other Departmental programs. It should be noted that of this amount, approximately $1.1 billion are transfers initiated by Congress. Since this $1.3 billion was not applied to carry out any enrichment activity, these funds were not included in the cost of enrichment operations that are charged to customers in the price they pay for enrichment services. Therefore, the utility industry has not been charged for any portion of the $1.3 billion that was transferred to other Department programs and no subsidy by utilities of these other programs has occurred.

QUESTIONS FROM CHAIRMAN LLOYD

AVLIS

Question 6: Will the proposed AVLIS facility for commercial customers be able to produce highly enriched uranium for the defense departments? What is the limit on the grade of enrichment for the projected facility?

Answer: The proposed AVLIS facility will not be able to produce highly enriched uranium. It is not designed to do so and cannot be easily reconfigured for that task. The plant is designed to produce a range of assays of low enriched material, depending on the demands of the customers. The highest assay produced will be about 7 percent.

QUESTIONS FROM CHAIRMAN LLOYD

Production Capacity

Question 7: What percentage of capacity is being used at Paducah and Portsmouth?

Answer: About 60 percent of the total production capacity at Paducah and Portsmouth is currently being used to meet customer demand.

QUESTIONS FROM CHAIRMAN LLOYD

Operating Costs

Question 10: What is the current operating cost per SWU at Paducah and Portsmouth?

Answer: The Department of Energy's current average cost of operating Paducah and Portsmouth is about $65 per SWU.

QUESTIONS FROM CHAIRMAN LLOYD

Decontamination and Decommissioning

Question 11: Does DOE intend to undertake the D&D study suggested by Smith Barney?

Answer: DOE agrees with Smith Barney that a comprehensive evaluation of D&D costs should be undertaken. The Office of Nuclear Energy will work with the Office of Environmental Restoration and Waste Management to conduct a more thorough evaluation than has been completed in the past. Because of the magnitude of the work required, the unique nature of the future D&D activities involved in DOE's enrichment plants, and the still emerging technologies that could be applied for this D&D work, we expect that this study will be completed in September 1991.

QUESTIONS FROM CHAIRMAN LLOYD

Licensing

Question 12: While I appreciate your comments that enrichment facilities pose significantly less risk to the environment and the public, the reality is that under current NRC rules and regulations, enrichment facilities must go through the same process as power reactors under 10 CFR Part 50. Would you care to comment on that? Was that taken into account in your licensing schedule?

Answer: The Department of Energy anticipates that enrichment plants will be licensed under 10 CFR Part 40 and Part 70. This would be a one step process compared to the two step Part 50 process. Enrichment facilities are similar to uranium conversion and fuel fabrication facilities that are currently licensed under Parts 40 and 70, respectively. Since NRC has considerable experience in licensing these facilities, it is expected that licensing of enrichment facilities would benefit from that experience. This factor was taken into account in our licensing schedule.

QUESTIONS FROM CHAIRMAN LLOYD

Licensing

Question 13: Has DOE requested the NRC personnel and resources for either FY 90 or 91 to begin work on the AVLIS licensing issues? Isn't it true that the NRC will have to include that project in its budget request for FY 91 which is currently being considered in the House?

Answer: DOE has had a number of preliminary meetings with NRC personnel to discuss licensing requirements, and additional meetings are planned primarily to familiarize them with the AVLIS technology. DOE expects such meetings to continue until a formal application for license is submitted in March 1991. It is our understanding that NRC would have to allocate resources in FY 1991 to fully address the licensing issues that must be examined for the AVLIS technology.

QUESTIONS FROM CHAIRMAN LLOYD

AVLIS Deployment

Question 14: We have received information that indicates that the deployment plan made public early this year is already slightly behind schedule. Staff has provided you with copies of timetables from the plan. Would you comment on those activities which according to the tables should have been completed to date?

Answer: The tables that you provided regarding AVLIS milestones identified interim planning dates that are associated with meeting key milestones leading to and supportive of an AVLIS deployment decision by November 1992. The key milestones of establishing an industrial access program, selection of a commercial deployment contractor and site selection will be met on a schedule to fully support this deployment decision.

In terms of the industrial access program, the Federal Register notice describing this program was published on April 23, 1990. This publication date was 2 months later than originally scheduled because proposed conditions involving access conditions and fees required more exhaustive review than anticipated. Since access to this technology involves restricted data, it was felt that a more deliberate review was warranted. Public comments have been received, and we now expect to initiate this access program in mid-November 1990, 2-1/2 months later than expected. This delay should not diminish the value of the technology access

Answer 14 (continued): program, and this program will still provide the full support needed for technology deployment. Furthermore, the industrial access program is not on the critical path to any decision the Department would make on deployment of the U-AVLIS process.

The interim milestones for site selection activities have been slightly revised to incorporate information about the Department's intent to prepare an Environmental Impact Statement regarding the AVLIS production plant. Including this information delayed the publication of siting criteria until June 18, 1990, or about 2 months later than originally planned. However, this revision of the notice is expected to facilitate the environmental documentation process needed for final selection of a preferred site by November 1992, and therefore, the delay was used to better support the eventual milestone of selecting a final site for an AVLIS plant. This revised notice also served the purpose of meeting the second intended milestone of publishing final siting criteria in July 1990. As a result, we are on schedule and fully expect to meet the milestone of selecting a short list of alternative sites by December 1990.

The milestones involving the selection of a commercial deployment contractor are being met on schedule, and this

Answer 14 (continued): activity should be completed as planned. In fact, we designated a source evaluation board in May 1990. We anticipate that the "Commerce Business Daily" notice will be published, and a request for proposals will be completed in August 1990, and October 1990, respectively. This will support meeting the schedule to select the commercial deployment contractor in March 1991, as identified in the plan submitted by the Secretary to Congress in January 1990.

QUESTIONS FROM CHAIRMAN LLOYD

Uranium Enrichment Corporation

Question 15: You said that the Department has begun to implement some of the recommendations in the report such as a more rational management structure and cost cutting measures. Could you tell us more specifically about these changes?

Answer: Three specific actions are being taken by the Department to improve the efficiency of the uranium enrichment enterprise. These include strengthening of line management responsibilities, increasing audit and oversight reviews to identify needed improvements, and implementation of cost reduction measures for enrichment operations.

As an initial action to strengthen line management, we have taken steps to more clearly define both line management responsibilities between Headquarters and field offices and the overall direction given to the contractor organization. This is intended to result in a more focused dedication of available resources to effectively carry out enrichment program activities. It should also provide an integrated performance of line management responsibilities with a stronger oversight of contractor activities. In addition, an example of a special need that was addressed in improving line management involved the creation of a Department of Energy AVLIS project office at Lawrence Livermore National

Answer 15 (continued): Laboratory that reports to Headquarters and is responsible for the transition of AVLIS technology from the laboratory to commercial deployment.

Greater accountability for performance of all enrichment functions is also being implemented throughout the program by tasking the contractor organization to make improvements in operations and performance standards. These improvements include incorporating standards that are used in the nuclear industry as appropriate to provide greater discipline for the conduct of operations in the enrichment program.

Increased audits of enrichment operations are being conducted, including the use of tiger teams to identify the need for improvement in the enrichment program. These types of reviews are placing an emphasis on quality performance at all levels to improve the efficiency of the enrichment enterprise. The effect of the audit activities and tiger team reviews has been a better responsiveness from the contractor organization for the enrichment program.

Enrichment cost reduction measures that the Department intends to take include greater use of nonfirm power at the enrichment plants. Plans are being made to use nonfirm power

Answer 15 (continued): for up to 30 percent of the total power consumed at the enrichment plants. This is expected to result in annual savings in excess of $100 million.

Measures such as these are being and will continue to be taken to improve the efficiency of the enrichment enterprise as a Government program. Even though these measures are necessary, we believe they will not be sufficient in the absence of restructuring legislation to allow the uranium enrichment enterprise to realize its maximum value and compete successfully in today's increasingly competitive enrichment market.

Department of Energy
Washington, DC 20585

October 1, 1990

The Honorable Marilyn Lloyd
Chairman
Subcommittee on Energy Research
 and Development
Committee on Science, Space and Technology
U.S. House of Representatives
Washington, D.C. 20515

Dear Madam Chairman:

On July 11, 1990, W. Henson Moore, Deputy Secretary, gave testimony before your subcommittee on the Independent Financial Assessment of the U.S. Uranium Enrichment Enterprise.

At the time of my last letter to you dated on September 24, 1990, we explained that certain information was not available and that it would be forwarded to you. Enclosed are the answers to those questions to complete the hearing record.

If you have any questions, please have your staff call Barbara Campbell on 586-8238. She will be happy to assist you.

Sincerely,

Jacqueline Knox Brown

Jacqueline Knox Brown
Assistant Secretary
Congressional and Intergovernmental Affairs

Enclosures

QUESTIONS FROM CHAIRMAN LLOYD

Uranium Enrichment Corporation

Question 2(a): Can you give us your opinion of the future of the enterprise without restructuring?

Answer: Without restructuring to provide the flexibility needed to compete and regain market share, the enterprise's current market share in terms of firm contracts could decline from about 50 percent through 1995 to about 25 percent by 1999 and to zero by 2000. Unless new sales beyond existing contracts are captured, the cashflow and overall financial capability of the enterprise to provide a return to the taxpayer will decrease after 1995. In the event that the enterprise retains no commercial customers by 2000, enrichment for defense purposes would cost the taxpayers an additional $300 million annually.

Smith Barney observed that, "If the Uranium Enrichment Enterprise (UEE) cannot effectively respond to an increasingly competitive marketplace, its decreasing market share will produce diminished revenues. Consequently, there will be fewer commercial customers, together with the need for the Government to carry the financial burden of the enormous sunk investments." The Department shares this view, agreeing with Smith Barney that the best means of ensuring

Answer 2(a) (continued): that the enrichment enterprise can effectively compete and provide maximum value to the Treasury is to establish a Government enrichment corporation. In fact, we believe that a Government corporation will generate a greater market share with about a $2 billion higher cashflow through 2005 than the best case scenario of a well managed and operated government program within DOE.

QUESTIONS FROM CHAIRMAN LLOYD

Uranium Enrichment Corporation

Question 2(b): What will that mean to national security and defense needs?

Answer: National security and defense needs will become more costly to the taxpayers. Defense sales now represent between 5 and 10 percent of our total business, amounting to about $120 million each year. By 2000, if the Department of Energy had no commercial customers and production for defense was our only business, all fixed costs at our enrichment facilities would have to be allocated to defense customers rather than shared with commercial customers as is done today. In this case, the cost to supply enrichment to meet defense needs would increase to $420 million each year. Thus, the taxpayers would have to pay $300 million more each year. In addition, without a commercial sales base, defense customers and thereby taxpayers would have to bear the burden of eventually paying all of the $3 billion in costs to eventually decontaminate and decommission the existing enrichment facilities. With a successful corporation, sufficient revenues could be collected from commercial customers to pay for 50 percent or $1.5 billion of this future liability.

QUESTIONS FROM CHAIRMAN LLOYD

Uranium Enrichment Corporation

Question 2(c): Is there a sense of urgency for forming the corporation? And if so, why?

Answer: The time to act is now and the urgency is real. The post-1995 market represents the most immediate battleground for all enrichment suppliers, including the Department. About $9 billion in sales are at risk after 1995 and customer decisions to select the enrichment supplier for many of these sales will be made later this year and in 1991 or 1992. Without the commercial flexibilities that the proposed Government corporation possesses, these sales opportunities will likely be lost and the financial benefits to taxpayers never realized. We believe that a Government corporation that is formed now will be able to successfully compete for sales that are available now and over the next several years. The net benefit realized by a Government corporation is expected to be about $2 billion in higher cash flow than could be generated by even the best case scenario of a well-managed and operated Government program within DOE.

QUESTIONS FROM CHAIRMAN LLOYD

Uranium Enrichment Corporation

Question 3: What is DOE doing to prepare for the transition to a government corporation? Aren't there some steps that can be taken now?

Answer: A preliminary study was prepared in 1988 to identify the initial steps to make the transition to a Government corporation. The areas examined in this study included the financial system and conversion of financial responsibility from a Governmental to a commercial entity, management and staff transition, and contract obligation conversion. The Department is currently updating and revising this study as appropriate to support a transition should a Government corporation be established in legislation later this year.

QUESTIONS FROM CHAIRMAN LLOYD

Louisiana Energy Services

Question 8: What is the projected effect on DOE's uranium enrichment sales, prices, and ability to recover costs if the Louisiana uranium enrichment plant proposed by URENCO and its business partners come on line?

Answer: The effect of the proposed Louisiana uranium enrichment plant on the Department depends in large part upon the competitive ability of the Department's uranium enrichment enterprise. We understand that the planned capacity of the Louisiana plant is 1.5 million separative work units per year, which is equivalent to about 15 percent of the total market demand in the United States. It is expected that the impact of the Louisiana plant on sales, prices and ability to recover costs would not be significant if the Department's uranium enrichment enterprise is provided the necessary commercial flexibilities to effectively operate in a highly competitive marketplace as proposed in the Administration's legislation to create a Government corporation for uranium enrichment. In this regard, we expect the Government corporation to be able to more effectively compete with the commercial enrichment plant in Louisiana proposed by Urenco and thereby generate $2 billion in higher cash flow than the best case scenario of a well-managed and operated Government program within the Department.

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QUESTIONS FROM CHAIRMAN LLOYD

Recovery of Costs

Question 9: How does DOE propose to assure that all costs associated with the AVLIS plant, whether it is ultimately operated or not, are recovered from the nuclear utility industry rather than from taxpayers?

Answer: We believe that all costs associated with a future AVLIS plant will be recovered from nuclear utility customers based upon the sales success that can be realized. AVLIS has the potential of enriching uranium at less than 50 percent of the cost of other enrichment processes. If this potential is confirmed and the AVLIS technology is successfully deployed in a production plant, then added sales with a much higher cash flow than possible with current production plants can be realized.

DOE is taking very deliberate steps to ensure that all costs associated with the AVLIS technology are recovered and to maximize the return to the taxpayer. From the inception of research in 1971 through the end of FY 1989, about $800 million has been expended on AVLIS. AVLIS expenditures were factored into enrichment prices as they were incurred and have been recovered. Furthermore, DOE will make the decision to deploy AVLIS only when there is a sound business basis for doing so. Any such decision will require demonstration that validates the technical performance of

Answer 9
(continued):

AVLIS, evidence providing high confidence that cost projections can be met, high confidence of a reasonable rate of return on the investment, assurance that adequate funding resources will be available to build the plant, and finally, that market conditions warrant building a plant. DOE currently has in place a plan to demonstrate AVLIS technology at plant scale, to integrate industrial expertise to facilitate transition of AVLIS to commercial application, and to develop the necessary information to make an informed deployment decision in late 1992. Upon completion of these activities in 1992, construction of an AVLIS plant will be initiated when DOE is absolutely convinced that the plant can be operated at highly efficient performance levels and that the costs can be recovered from sales to nuclear utility customers.

Should AVLIS be deployed by a Government corporation, the Department believes that the corporation, rather than the taxpayer, should bear the associated risks. A Government corporation would have greater incentive to assess the cost and benefits of AVLIS deployment and assure that deployment was based on such commercial factors as the needs of the business and market conditions. Once a corporation decided to deploy AVLIS, it would be more likely to do so on a timely and efficient basis. Moreover, a corporation would fund its

Answer 9
(continued): AVLIS activities solely from retained earnings or borrowing in commercial markets, as the Administration's bill would allow access to commercial money markets only.

WILLIAM H. TIMBERS, JR.
MANAGING DIRECTOR
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SMITH BARNEY

August 8, 1990

Honorable Marilyn Lloyd
Chairman, Subcommittee on Energy
Research and Development
Committee on Science, Space and Technology
U.S. House of Representatives
B-374 Rayburn House Office Building
Washington, D.C. 20515

Dear Congresswoman Lloyd:

On behalf of Frank Zarb and Smith Barney, I am enclosing our answers to the post-testimony questions submitted to Mr. Zarb in your letter of July 18, 1990.

Please do not hesitate to contact us if we can be of further assistance regarding the Uranium Enrichment Enterprise.

Sincerely,

Nick Timbers
William H. Timbers, Jr.

cc: Frank G. Zarb
Philip G. Sewell

Encl.
WHT/jj

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Smith Barney, Harris Upham & Co.
Incorporated

Responses to Post-Testimony Questions

from the

Subcommittee on Energy Research and Development
Committee on Science, Space and Technology
U.S. House of Representatives

regarding the

United States Uranium Enrichment Enterprise

August 8, 1990

1. HOW WILL RESTRUCTURING TO A GOVERNMENT CORPORATION CURE THE ILLS OF THE ENTERPRISE?

- **Implementing Smith Barney's restructuring recommendations, including the creation of a new government corporation, will not necessarily result in a near-term magic transformation of the in UEE into a dynamic business enterprise. Our recommendations will not cure all the ills of the enterprise, because some of them, as you know, are imposed by the market. But making the UEE more flexible and, therefore, more capable of responding to market demands as well as insulating the UEE from non-business pressures is, in our judgment, the best way to maximize the value of this enterprise to the Treasury and to the taxpayers.**

-- WHICH BUSINESS PRACTICES COULD BE CHANGED TO MAKE A SIGNIFICANT DIFFERENCE?

- Business practices in a restructured government corporation would permit the UEE to act quickly in response to customer needs and the competition; to develop operating efficiencies that will yield competitive costs; and to be flexible in its contracting and pricing strategies should be changed.

-- CAN YOU EXPLAIN WHAT THE ENTERPRISE IS FORCED TO DO OR PROHIBITED FROM DOING TODAY THAT WOULD BE DIFFERENT UNDER THE CORPORATION?

- The UEE is constrained today by:
  - existing contracting and pricing inflexibility;
  - the Government's short-term budget and planning process;
  - conflicting Congressional mandates and Administration objectives;
  - a lengthy and complex decision-making process; and
  - the lack of a single, coordinated management structure that can establish and efficiently implement both short-term and strategic goals.

It is our belief that a restructured UEE would eliminate these constraints and permit it to operate in a more business-like fashion.

2. WHAT IS THE ADVANTAGE OF THE CORPORATION BEING AN INSTRUMENTALITY OF THE UNITED STATES? WOULD THAT NOT CREATE A FALSE ATMOSPHERE WHICH WOULD THEN HAVE TO BE CORRECTED WHEN SOLD TO THE PRIVATE SECTOR?

- The principal advantage in providing governmental instrumentality status to the UEE is that it provides the UEE, during its transition phase to a private entity, with the same legal status that the enrichment enterprise presently enjoys. There are a number of benefits to be derived by this status. For example, we have recommended that the environmental laws apply directly to the UEE. As a government instrumentality, the UEE may claim the same right of sovereign immunity with regard to certain local, state or federal environmental laws as would any other U.S. governmental entity. Also, as a government instrumentality the antitrust laws will not apply to the government corporation. This may be particularly important in view of the role the enrichment program plays in supplying the enrichment needs of most U.S. utilities. Further, the UEE will be assuming the Department of Energy's obligation under existing enrichment contracts executed by the DOE on behalf of the U.S. Government. The UEE's government instrumentality designation will assure the purchasers of existing enrichment services that they are still dealing with the U.S. Government, and the contracts will remain valid.

3. **WHAT FINANCIAL ITEMS WERE INCLUDED IN YOUR CATEGORY OF OMISSIONS AND ERRORS IN YOUR CALCULATION OF UNRECOVERED COSTS?**

- The category of omissions and errors in the calculation of uncovered costs includes a number of items where Coopers & Lybrand and the Project Team's methodology differed from either DOE, GAO or the Edison Electric Institute. These items were:
  - initial plant and working capital;
  - unexpended appropriations and non-UEE appropriations;
  - imputed Government charges to invested capital;
  - Government sales of high assay uranium; and
  - customer deposits.

-- **DID YOU HAVE ACCESS TO INFORMATION CONCERNING REPROGRAMMINGS - THAT IS MONEY TAKEN FROM THE ENRICHMENT ENTERPRISE FOR FUNDING OTHER DOE PROGRAMS?**

- No.

4. WOULD YOU DISCUSS THE POLICY COSTS CATEGORY IN THE UNRECOVERED DEBT SECTION? HOW DID YOU DETERMINE WHICH COSTS WENT INTO THIS SECTION AND WHY?

- The costs included in the Policy Costs category include three items:
  1. An excess capacity write-down calculated and recorded by UEE (ultimately a plant was closed).
  2. Abandoned plant - the GCEP start-up which was abandoned before operation.
  3. Energy costs - for contractual commitments for which power was not delivered and currently is undeliverable.

We have described these as policy issues because the legal right of the UEE to recover or decide not to recover these costs is a matter of dispute between the DOE and the GAO, a policy dispute which has not yet been resolved by Congressional or judicial action.

-- **CAN YOU EXPLAIN HOW A PRIVATE SECTOR BUSINESS WOULD HAVE HANDLED THESE ITEMS DIFFERENTLY?**

- Responses to this question about private sector treatment of such costs under generally accepted accounting principles require specific circumstances to answer concretely. However, some general observations can be made.

(This question has to be answered separately for a non-rate regulated versus a rate-regulated business.)

Non-Rate-Regulated

- If a company determined that its fixed assets were impaired, it would record a write-down for the excess capacity.
- If a company abandoned a new plant, it would write down that plant to its next realizable value and accrue all costs for disposal.
- If a company entered into a settlement agreement for costs to which it was not entitled to services - such as the TVA contract - it would accrue all such costs as an expense.

Obviously, the company's owners would suffer a loss in value for such expenses unless they could require some other party to reimburse them for these losses.

Rate-Regulated

- Accounting depends upon rate actions by regulators.
- If recovery of these costs is allowed in rates, the costs are recognized as revenue is recorded.

5. I UNDERSTAND THAT THE REPORT RECOMMENDS THAT DECOMMISSIONING AND DECONTAMINATION RESPONSIBILITIES REMAIN WITH THE GOVERNMENT. COULD YOU ELABORATE ON THIS?

We believe that the D&D costs associated with the UEE's operations for the military and commercial customers prior to any restructuring should remain an obligation of the Government.

The proper allocation of these costs would be determined in the D&D cost study which we recommended. This study would evaluate:

1) what technology to use for D&D;
2) how much that technology would cost;
3) how to allocate the total cost between military and commercial use; and
4) what portion of the commercial costs are either:
    - sunk costs from prior operations, or
    - correctly attributable to future operations.

6. WHAT DO YOU SEE AS THE CRUCIAL TIME FRAME IN WHICH WE MUST ACT?

UEE's current profitability is based upon long-term contracts with commercial customers at above-market prices. These contracts begin to terminate after 1995. It is expected that the pace of contract terminations will accelerate in the post-1995 time frame. It is at this time that a highly competitive business battle will begin. And the battle will be for the U.S. market-place where 70% of uncommitted demand in the world will develop.

It will take some time to implement these changes and to realize the benefits of restructuring. If the United States is to be competitive in this battle in the mid-1990's, now is the time to effect these changes.

7. **WHAT WOULD YOU CONSIDER AN APPROPRIATE LEVEL OF PAYMENT AGAINST UNRECOVERED COSTS?**

We believe that there are no unrecovered costs and, in fact, there has been an over-recovery of $1.17 billion.

8. DO YOU BELIEVE IT WOULD BE APPROPRIATE FOR THE CORPORATION TO BE EXEMPT FROM THE REQUIREMENTS OF THE SECURITIES ACT OF 1933? WHAT ARE THE KEY PROVISIONS AT ISSUE?

As a government corporation, the UEE should be exempt from SEC filing requirements. However, upon privatization it would most likely be subject to SEC requirements.

The key provision here concerns whether public capital market offerings of debt and/or equity by the UEE would be required to be registered with the Securities and Exchange Commission. As a general rule, government corporations, Federal agencies and instrumentalities are exempt from these requirements while private companies uniformly are not. As an instrumentality of the United States, the new government corporation, therefore, would be exempt from SEC filing requirements.

9. IS IT NECESSARY TO HAVE EXISTING FACILITIES LICENSED BY THE NUCLEAR REGULATORY COMMISSION? IF SO, HOW DO WE DEAL WITH POSSIBLE INTERRUPTION OF SUPPLY BECAUSE OF UNCERTAINTIES IN LICENSING?

The existing GDP's should be operated in a manner that protects the health and safety of their employees and communities. However, any licensing process must recognize that when these facilities were constructed for the U.S. weapons programs from 1943 to 1955, it would have been difficult to anticipate NRC regulations in the 1990's.

As a result, we have recommended that the government corporation be initially exempt from NRC licensing with respect to existing GDP's. However, it must apply for a license one year after NRC promulgates regulations. DOE and the government corporation should work closely with the NRC to ensure that: (i) the regulations make sense for 40-year old facilities and (ii) the period for compliance is reasonable so as to guard against an interruption of supply.

10. ON THE SUBJECT OF AVLIS, HOW DO YOU SEE THE R&D PROGRAM BENEFITTING FROM BEING PLACED UNDER THE CORPORATION AS OPPOSED TO BEING MANAGED BY DOE?

- The primary consideration for having the continued development and subsequent deployment of AVLIS as the responsibility of a new government corporation is that the future use of this technology will be based primarily upon commercial considerations rather than the type of conflicting political factors that influenced the capital investment in the gas centrifuge technology (the GCEP).

  Additionally, it is our general observation that private enterprise has been more efficient and cost effective in moving a new technology from the workbench to commercial production.

-- **WHAT IS YOUR ASSESSMENT OF THE CURRENT DEPLOYMENT PLAN? WHY DO YOU BELIEVE THE DEPLOYMENT WILL BE LATER AND MORE EXPENSIVE?**

- The basis for our judgment that the deployment schedule for AVLIS will slip and the costs will increase centers on the environmental and licensing approval process.

  Previous experience with licensing advanced nuclear facilities, other than reactors, indicates that licensing proceedings for the first AVLIS plant will be extremely lengthy and contentious. The DOE's present AVLIS commercialization plan has devoted little attention to the complexities of the NRC licensing process. Our independent Panel believes that the DOE has adopted an optimistic schedule, with submission of a license application in March 1991, and receipt of a construction license in March of 1993.

  The licensing issue is crucial to AVLIS deployment since the engineering design of the facility must be able to withstand the intense scrutiny typically associated with an adversarial proceeding at the NRC. The design must also be sufficiently flexible to adapt to almost certain changes that will be mandated by the NRC. The resulting delays could easily extend two years or longer from application to final construction licensing, assuming the NRC standards have been established and detailed design and probability risk assessments are available. This could delay the receipt of the construction license to as late as 1995.

  The Project Team's independent Panel believes that the capital costs of AVLIS will be 50 percent higher than current DOE estimates. The Panel concluded that existing AVLIS cost estimates remain highly uncertain. Actual costs for a commercial scale facility are likely to increase substantially because of schedule slippages, additional R&D required through deployment and the increased scope of certain aspects of the deployment effort, such as certain technical issues, and the uncertainties relating to NRC licensing.

-- **HOW DO YOU VIEW THE AVLIS ROLE IN THE FUTURE OF THE CORPORATION OR THE ENTERPRISE?**

- Notwithstanding the possibilities of deployment delays and higher-than-estimated costs, AVLIS has the potential of significantly lowering the cost of production of SWU, and making the U.S. the lowest cost producer of enriched uranium worldwide, resulting in:

  - enhanced market share;
  - enhanced revenues; and
  - greater means to enhance value to the Treasury from annual cash flow and potential proceeds from a future privatization sale.

  By deploying AVLIS in 2002, the Project Team's analysis indicates that the UEE could potentially reduce the cost of production of SWU by 37%.

-- **CAN THIS BE ACCOMPLISHED WITHOUT A GOVERNMENT CORPORATION?**

- Yes, the development and deployment of AVLIS can be accomplished without a government corporation, but for the reasons cited earlier (future use based upon commercial considerations rather than conflicting political factors that have influenced other capital investments), we believe that a private sector-type organization can do a better job.

11. **I BELIEVE IT HAS BEEN POINTED OUT BY THE SMITH BARNEY TEAM THAT DOE IS NOT WINNING ANY POINTS BY CHARGING LESS THAN THE CONTRACT CEILING PRICE. CAN YOU DISCUSS THAT FOR US?**

As discussed in the Report, if DOE were to lower its SWU prices below the ceiling price, the Net Present Value of the enterprise could be reduced by as much as one-third. The structure of the SWU marketplace until 1996 is such that the majority of available demand is under contract. Because of the small amount of uncommitted demand, lowering the price charged for supplying SWU could not generate a significant increase in sales volume. Therefore, the UEE would end up selling approximately the same amount of SWU, but would receive significantly less in total revenue.

-- **ALSO, WHAT WOULD HAPPEN IF DOE RAISED THE PRICE PER SWU?**

Most of the current world demand for SWU is committed by contracts. For UEE customers, there is a published ceiling price for future years and the current USEC contracts have termination penalties which, with these contracts currently at the ceiling price, make it uneconomic to prematurely terminate the expensive UEE contracts and buy on the less expensive world market. As a result, we examined the termination penalties on the current USEC contracts and determined at what ceiling price customers would economically benefit from: (i) terminating their contracts, (ii) incurring the penalty and (iii) buying SWU in the open market. With the spot market for SWU continuing to develop, if DOE were to significantly raise its ceiling price, it would become economically beneficial for UEE customers to terminate their contracts sooner, looking to the spot market to meet their enrichment needs.

12. CAN YOU GIVE US YOUR OPINION OF THE FUTURE OF THE ENTERPRISE WITHOUT RESTRUCTURING? WHERE SPECIFICALLY COULD RESTRUCTURING MAKE A DIFFERENCE? WHY?

In an increasingly competitive world market, where product price has become the dominant criterion for nuclear utilities purchasing enriched uranium, the UEE has maintained operating profitability. However, this current and near-term profitability is based on long-term contract prices that cannot be sustained when lower priced, short-term purchases begin to dominate the market.

Without any restructuring, the UEE will enter a period where successful competition will demand operating efficiencies, responsiveness to customer needs and pricing flexibility, but will be constrained by:

- existing contracting and pricing inflexibility;
- the Government's short-term budget and planning process;
- conflicting Congressional mandates and Administration objectives;
- a lengthy and complex decision-making process; and
- the lack of a single, coordinated management structure that can establish and efficiently implement both short-term and strategic goals.

If the UEE were to remain unchanged, it would lose progressively more and more of its commercial customers as its prices became more unattractive relative to world prices. This, eventually, would leave military purchases as the only source of revenues available to pay for the liabilities of the UEE.

The Project Team believes that a number of key changes, including a streamlined management structure, aggressive pursuit of differential pricing (assuming the voiding of Section 161(v)) as existing contracts expire, efforts to reduce production costs, including the commercialization of new enrichment technology, and freedom from the short-term budgeting and planning constraints and political influences of a government agency, will all serve to enhance the long-term profitability of the enterprise. Arguably, some of these changes can be implemented within the existing enterprise and the inherent constraints of operating within a government agency. However, the objective of creating a market-responsive and competitive enrichment enterprise is best achieved under a totally new organizational structure which operates with minimal influence from the Administration and Congress. In the Composite Benefits Case, the Project Team incorporated the optimal variables of the business concepts discussed above:

(i) **AVLIS** - This new technology, deployed commercially in 2002 with the more conservative AVLIS review panel cost estimates, results in a Net Present Value increase of $170.8 million above the Base Case. It is important to note that, while the model covers the fifteen year period through 2005, the economic benefits of AVLIS only begin to be recognized in the last four years.

(ii) **Soviet Supply** - The UEE purchases SWU annually at below the UEE's incremental costs of production, with accompanying restrictions on additional Soviet supply in the market.

(iii) **Overfeeding** - Using only existing inventory (and therefore, there being no cost for the inventory being used).

(iv) **Oak Ridge Facilities** - The absorption of these costs and associated TVA contract settlement charges by the government.

13. HOW DO YOU PROPOSE THAT THE COSTS OF REMEDIAL ACTION AND DECOMMISSIONING BE BORNE? HOW WILL DOE RECOVER THOSE COSTS FROM ITS CUSTOMERS, OR DOES THE AGENCY ASSUME THAT TAXPAYERS WILL PICK UP ANY COSTS TO RECAPTURE?

Although they currently cannot be quantified, the costs involved in environmental cleanup, decontamination and decommissioning, and ongoing compliance are significant, conceivably running into tens of billions of dollars. Most of this cleanup and a portion of ongoing compliance has resulted from prior operations of the UEE. The amounts involved would most certainly have an enormous negative impact on the viability of the UEE and any proposed restructuring. Furthermore, in the event of privatization, potential investors and purchasers would be unlikely to participate if the privatization were structured such that the liabilities for these costs that were previously incurred by the prior owner/operations are passed on to the new owners. Because of this, the Project Team recommends that these costs associated with the UEE's operations prior to any restructuring should remain a direct liability and obligation of the Government. In addition, the Project Team concluded that, even though the plants were contaminated when operations commenced exclusively for the military, commercial users should also bear a share of these costs on a going forward basis, as such future costs are determined through the cost study we recommended. Upon a restructuring of the UEE, we recommend that the new entity be responsible for its share, on a going-forward basis, of these costs.

14. IN THE VIEW OF SMITH BARNEY, WHAT SHOULD DOE DO TO ITS PRICES IN ORDER TO MAXIMIZE RETURN TO THE U.S. TREASURY?

- The Report "recommends that the Corporation implement a 'harvest' pricing strategy that involves charging the ceiling price to customers under existing contracts" and that the enterprise be prepared to enter the uncommitted SWU market in 1996 offering a variety of market-based contracts. The basis for our recommendation is that the harvest strategy provides the highest Net Present Value of cash flows to the UEE and therefore maximizes return to the United States Treasury. Our recommendation is based on certain facts and assumptions which we believe to be reasonably supported.
    - The key assumptions relate to: (i) how the current excess inventory is absorbed and the behavior of the Soviets which help establish our market supply and the pricing of available SWU and (ii) that customers will act rationally and buying decisions will be motivated by economics.
    - The key facts are: (i) most of the current world demand for SWU is committed by contracts; (ii) for UEE customers, there is a published ceiling price for future years; and (iii) the current USEC contracts have termination penalties which, currently, make it uneconomic to prematurely terminate the expensive UEE contracts and buy on the less expensive world market.
    - As a result of customers having little available uncommitted demand until 1995-1996, the UEE has almost a "monopoly" supplier position through this time period. The UEE should take advantage of this position and charge at the contract price until customers terminate their contracts.
    - In addition, due to the time value of money, maximization of near-term revenue is of more benefit to the UEE than longer-term revenues. Therefore, since customers have little choice in terms of alternative availability and are economically discouraged from terminating, the UEE can maximize the return to the United States Treasury by adopting this strategy.

15. **IN APPENDIX VI TO YOUR REPORT DEALING WITH UNRECOVERED COSTS, COOPERS & LYBRAND INDICATE THAT THEIR RECALCULATION OF UNRECOVERED COSTS INVOLVED BOTH ASSERTED ERRORS IN METHODOLOGY, AS WELL JUDGMENT CALLS ON WHAT SHOULD BE ASSIGNED AND NOT ASSIGNED AS A COST, CORRECT?**

    (A) **THESE JUDGMENT CALLS INVOLVE MATTERS LIKE THE LEVEL OF INTEREST. COOPERS & LYBRAND WANT THE LONG-TERM BOND INTEREST RATE TO BE USED, BUT DOE UNTIL 1986 USED THE WEIGHTED AVERAGE RATE OF INTEREST PAID BY THE UNITED STATES. WHAT REFLECTS THE COST OF BORROWED CAPITAL TO THE U.S.: THE LONG-TERM BOND RATE, OR THE WEIGHTED AVERAGE INTEREST RATE?**

In the question above, it states that "Coopers & Lybrand want the long-term bond interest rate to be used". This statement is only partially true. Coopers & Lybrand recalculated the imputed interest using long-term Federal interest rates for fixed assets based on rates when plant was put into service, and short-term interest rates for working capital (including the accumulated deficit).

In order to facilitate effective economic decision-making by management, and properly allocate government interest costs, the imputed interest rate should be based on the cost of government debt which best reflects the actual costs of such funds.

Neither weighted average annual interest rates nor fixed interest rates accomplish these objectives. Weighted average annual interest rates represent the "book" interest cost of all government debt, including debt issued as much as 29 years prior. For example, the initial plant and working capital has had interest imputed at rates ranging from 4.985% to 12.395% from 1969 to 1989; the 1969 "base debt" for net assets included debt issued as long ago as 1940. A more appropriate rate for initial plant would be the long-term bond rate at January 1, 1969; and a more appropriate rate for working capital would be annual short-term rates. A fixed interest rate is not appropriate because it eliminates all considerations of the actual economic costs of decisions from management's consideration, and does not reflect the marginal cost of borrowings.

16. WOULD IT BE PRUDENT TO SET UP A SPECIAL FUND TO ACCUMULATE REVENUE TO PAY THE COSTS OF DECOMMISSIONING THE THREE EXISTING DOE FACILITIES?

It would be prudent to begin making some provision to cover these costs. However, we believe that it is important to immediately determine what these costs will be and under what structure the UEE will operate in the future. Our Project Team recommended that a thorough, rigorous study be conducted to identify the levels of contamination present and determine the magnitude of the costs associated with D&D and environmental cleanup and compliance requirements, in light of developing legislative guidelines.

17. IN SMITH BARNEY'S VIEW, SHOULD TAXPAYERS UNDERWRITE THE RISKS ASSOCIATED WITH AN AVLIS FACILITY, OR SHOULD THE RISKS BE BORNE BY DOE CUSTOMERS?

The Project Team believes that the costs of continued development and the subsequent deployment of AVLIS should be the responsibility of a new government corporation or its successor private corporation. Furthermore, we recommended in our Report that the proposed government corporation be "authorized to issue public debt, pledged by revenues, to the extent possible" and to permit "borrowing from Treasury if unable to access capital markets". We anticipate that any borrowings from Treasury would be for general corporate purposes during the initial start-up period of the corporation while a strategy for accessing the capital markets is developed and implemented. We did not anticipate AVLIS' capital costs to be financed through Treasury borrowings. We would expect that the proposed government corporation will have developed the appropriate mechanisms to raise capital on its own credit by the time capital expenditures are incurred for AVLIS. In this manner, the future use of this technology will be based primarily upon commercial considerations rather than the type of conflicting political factors that influenced the capital investment in the Gas Centrifuge Enrichment Plant.

It is clear therefore, in our view, that the risks associated with an AVLIS facility should not be borne by the taxpayers.

18. IF UNDER EXISTING LAW, DOE CUSTOMERS WERE TO PAY ALL THE COSTS ASSOCIATED WITH THE FEDERAL URANIUM ENRICHMENT PROGRAM, AND IT [sic] THIS WAS UNDERSTOOD FOR OVER TWENTY-FIVE YEARS, IS IT UNFAIR TO INQUIRE INTO WAYS IN WHICH TO PROVIDE FOR DOE CUSTOMERS TO BEAR THOSE COSTS AS OPPOSED TO DUMPING THEM ALL ON THE U.S. TAXPAYER?

A great deal of time and energy has been expended in the now long-standing debate over the subject of "unrecovered costs". This refers to costs which the U.S. Government has incurred during the operation of the UEE, but has not been able to recover as part of SWU prices. This debate has centered on an accounting dispute as to both the inclusion of, and appropriateness of, the recovery of a broad range of past costs. The debate has attempted to define how the cost of creating and supporting the UEE should be split between the nuclear industry customers on the one hand and the U.S. Treasury, i.e., the U.S. taxpayer, on the other.

After careful analysis, the Project Team has concluded that this preoccupation with how to divide the costs detracts from the central, and basically unrelated, question of how best to insure that there is something to divide. In the reality of today's competitive uranium enrichment market, the questions are no longer how much *should* you charge, but rather how much *can* you charge in the effort to maximize profits; not how best to *share* past costs, but rather how best to *minimize* current and future costs so as to generate profits. In assessing the economic feasibility of restructuring the UEE, a basic tenet of this Report is that the determination of a theoretical payback of unrecovered costs to various parties will have little meaning if the entity responsible for the repayment is not alive and well and generating profits to support a payback.

Thus, it is important to put the debate over unrecovered costs in the proper context. As a serious dialogue over whether or not the U.S. Treasury and taxpayers are being dealt with fairly in terms of the pricing of SWU, this debate is both relevant and important to government officials and others who are concerned about answering this question before taking any action related to restructuring the UEE. However, as a benchmark to the actual price to be charged in a competitive marketplace with overcapacity, this issue is irrelevant and potentially misleading in terms of creating a business-oriented entity with the objective of maximizing return to the U.S. Treasury and taxpayers.

It is important to note that the work of Smith Barney's Project Team shows that there is no unrecovered cost and, in fact, there has been an over-recovery of $1.170 billion.

19. (A) WILL THE PROPOSED AVLIS FACILITY FOR COMMERCIAL CUSTOMERS BE ABLE TO PRODUCE HIGHLY ENRICHED URANIUM FOR THE DEFENSE DEPARTMENT?

To the best of our knowledge, we understand that the proposed AVLIS facility could be able to produce highly enriched uranium for defense purposes.

– WHAT IS THE LIMIT ON THE GRADE OF ENRICHMENT FOR THE PROJECTED FACILITY?

This issue is beyond the scope of our study.

(B) IF THE FACILITY WILL NOT PRODUCE HIGHLY ENRICHED URANIUM, THEN HOW WILL CONSTRUCTION OF THE AVLIS FACILITY RENDER MORE ECONOMIC THE PRODUCTION OF HIGHLY ENRICHED URANIUM, WHICH WILL THEN HAVE TO BE PRODUCED AT AN UNDER-UTILIZED EXISTING FACILITY?

If the enrichment process would need to be completed elsewhere, it is unclear whether the AVLIS facility could render more economic production of highly enriched product. This is due to the need for a facility which would take the metal feed from the AVLIS plant and convert it to the appropriate form so that a gaseous diffusion plant could continue the enrichment process. To our knowledge, there is no such conversion facility being planned.

(C) IF THE FACILITY WILL PRODUCE HIGHLY ENRICHED URANIUM, THEN WHAT ARE THE NUCLEAR PROLIFERATION RISKS POSED BY THE FACILITY?

This issue is beyond the scope of our study.

(D) WHAT CAPACITY DO YOU RECOMMEND FOR THE FACILITY?

If the anticipated lower costs and increased economies of scale of the AVLIS technology do materialize, a facility with as much capacity as possible, within the limits of prudent technology scale-up, would be recommended. Such a strategy would increase the future profitability and enhance the competitive position of the UEE.

(E) WHAT EFFECTS ON DOE'S PRICES, SALES, AND ABILITY TO RECOVER COSTS DO YOU PROJECT IF THE LOUISIANA URANIUM ENRICHMENT PLANT PROPOSED BY URENCO AND ITS BUSINESS PARTNERS COMES ON LINE?

The impact of a successful URENCO Louisiana plant would be an intensification of competition and a capping of DOE prices. Because of its proximity to U.S. customers, the URENCO facility will threaten the UEE's future sales to its current customers unless the URENCO plant's incremental production costs are high. Obviously, the UEE will not be able to price its product above the URENCO prices without losing U.S. customers. Therefore, the DOE prices will be held down, to the extent that the facility's 1.5 million SWU's competes with UEE sales.

Since, with GDPs, incremental costs increase as production increases, the URENCO plant will force DOE to produce less SWU to keep its incremental costs at the appropriate levels. Furthermore, the UEE will be forced to spread its fixed costs over less SWU produced. Although the initial facility is planned for 1.5 million SWU, URENCO has the ability to readily add additional capacity to meet demand.

20. **THE SMITH BARNEY TESTIMONY IN THE U.S. SENATE INDICATED THAT SOVIET URANIUM ENRICHMENT SERVICES WERE POSSIBLY BEING OFFERED BELOW COST. FROM TIME TO TIME, ALLEGATIONS ALONG THOSE LINES HAVE BEEN MADE CONCERNING OTHER EUROPEAN ENRICHMENT SERVICES. THE RUMOR MILL INDICATES THAT THE STATE DEPARTMENT HAS ORDERED ALL SUCH ANALYSES SUPPRESSED.**

(A) DID SMITH BARNEY ASCERTAIN WHETHER DOE EVER ANALYZED, OR RETAINED EXPERTS OR LEGAL ADVISORS TO ANALYZE FOR IT, POSSIBLE DUMPING CLAIMS, OR OTHER UNFAIR TRADING CLAIM, AGAINST EUROPEAN COMPETITORS?

No.

(B) WHO AT DOE IS, WAS, OR WOULD HAVE BEEN INVOLVED IN SUCH ANALYZES, OR OBTAINING SUCH ANALYSES, AND WERE THOSE PERSONS CONSULTED IN ANSWERING THE FOREGOING QUESTION?

The determination of who at the DOE is, was, or would have been involved in such analyses or obtaining such analyses is beyond the scope of the Statement of Work governing our assignment, and therefore was not addressed by the Project Team.

(C) IF DOE HAS ANALYZED THE MATTER, OR RETAINED EXPERTS FOR THAT PURPOSE, PLEASE SUMMARIZE ANY SUCH ANALYSES, AND SUPPLY COPIES OF ANY DOCUMENTS EMBODYING SUCH ANALYSES.

As discussed in Appendix 4 to the Report, the Project Team has ascertained that the UEE's competitors are able to subsidize sales to non-partners through higher prices to partners. Appendix 4 contains a detailed analysis of each of the UEE's competitors based on available public information and extensive contracts with field officials. We are not aware of any DOE analysis in this area.

-- **WHO WAS INVOLVED IN ANY DECISIONS WITH RESPECT TO WHAT TO DO IN RESPONSE TO THE ANALYSES?**

This question was not included in the scope of the Statement of Work and, as a result, was not addressed by the Project Team.

(D) DOE HAS PROPOSED, AND SMITH BARNEY SEEMS TO BE RECOMMENDING, THAT DOE BUY SOVIET SWU FOR RE-SALE IN THE U.S., BECAUSE IT IS PRODUCED BELOW COST. ANOTHER RESPONSE, WHICH WOULD BE MORE CONDUCIVE TO PROTECTING THE INTEREST OF U.S. TAXPAYERS AND U.S. URANIUM ENRICHMENT WORKERS, WOULD BE TO PURSUE DUMPING REMEDIES. WAS THIS APPROACH EXPLORED, AND IF NOT, WHY NOT? IF SO, WHY WAS IT REJECTED, OR NOT DISCUSSED?

The determination of whether or not the DOE should pursue dumping remedies in order to best protect the interest of U.S. taxpayers and U.S. uranium enrichment workers was not included in the scope of the Statement of Work and was not addressed by the Project Team.

21. SMITH BARNEY HAS INDICATED THAT CLEANUP COST AT THE THREE EXISTING ENRICHMENT PLANTS MAY BE FAR HIGHER THAN ANY PROJECTIONS TO DATE, AND HAS RECOMMENDED A STUDY TO ASCERTAIN THOSE COSTS.

(A) WHAT IS DOE'S CURRENT ESTIMATE FOR ENVIRONMENTAL REMEDIAL ACTION AND DECOMMISSIONING FOR EACH OF THE THREE EXISTING URANIUM ENRICHMENT PLANTS?

Based on the work done to date, it is not possible now to calculate all the future expenditures that will be needed to satisfy environmental, decontamination and decommissioning requirements, with a reasonable degree of certainty. It is clear that much more work needs to be undertaken to clarify the regulatory regime applicable to the GDPs, and that the ultimate liability on the environmental, decontamination and decommissioning side is likely to be a number far larger than anyone has officially acknowledged to date.

The most current and reliable, but still limited, budgetary information on costs of environmental projects and liabilities made available by the UEE for purposes of our Report was found in activity data sheets ("ADSs") prepared for each GDP during the summer of 1989. These estimates are useful for determining a known limited portion of the total liability. They provide near-term budgetary estimates totalling $676 million in current dollars for programmatic needs and activities anticipated over the six-year period through FY 1995. Given the magnitude of the task which lies ahead, the lack of this kind of analysis for the period beyond 1995 underscores the incomplete nature of the work done to date. The $676 million figure does not include baseline operating costs of approximately $8 million per GDP per year.

Although no reliable decontamination and decommissioning estimates exist at this time, the DOE has calculated an annual D&D cost of $50 million per year beginning in 1990 through 2005.

(B) HOW DOES DOE PROPOSE THAT THE COSTS OF REMEDIAL ACTION AND DECOMMISSIONING BE BORNE? HOW WILL DOE RECOVER THOSE COSTS FROM ITS CUSTOMERS, OR DOES THE AGENCY ASSUME THAT TAXPAYERS WILL PICK UP ANY COSTS INCONVENIENT TO RECAPTURE?

DOE has stated that under H.R. 2840, "the total amount available in the D&D fund should be adequate, with perhaps some small adjustment in future payments into the D&D fund, to meet DOE's currently projected costs for D&D".

(C) DOES DOE INTEND TO UNDERTAKE THE STUDY SUGGESTED BY SMITH BARNEY?

DOE has stated that it "intends to update the previous D&D cost evaluation, and the Office of Nuclear Energy will work with the Office of Environmental Restoration and Waste Management to conduct a thorough assessment of future D&D costs for the enrichment plants".